SUPER●®

SMT IPMI

User's Guide

Revision 2.3a

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Preface

About this User's Guide

This user's guide is written for system integrators, IT professionals, and knowledgeable end users who intend to configure the IPMI settings supported by the Nuvoton WPCM450/ASpeed AST2400 BMC Controller embedded in Supermicro motherboards. It provides detailed information on how to configure the IPMI settings supported by the WPCM450/AST2400 controller.

Note: Nuvoton Technology is a subsidiary of Winbond Corp.

User's Guide Organization

Chapter 1 provides an overview on the Nuvoton WPCM450/ASpeed AST2400 controller. It also introduces the features and the functionality of IPMI.

Chapter 2 provides detailed instructions on how to configure the IPMI settings supported by the WPCM450/AST2400 controller.

Chapter 3 provides the answers to frequently asked questions.

Conventions Used in This User's Guide

Pay special attention to the following symbols for proper IPMI configuration.

⚠ **Warning:** Important information given to avoid IPMI configuration errors,

Note: Additional information given to ensure correct IPMI configuration setup.

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Chapter 1

Introduction

1-1 Overview of the Nuvoton WPCM 450/ASpeed AST 2400 BMC Controller

The Nuvoton WPCM450/ASpeed AST 2400 Baseboard Management Controller (BMC) supports PCIe-based 2D VGA Graphics cores, multi-media virtualization, and Keyboard/Video/Mouse Redirection (KVMR). The WPCM450/AST2400 controller is ideal for networking management.

The WPCM450/AST2400 interfaces with the host system via PCI connections to communicate with the Graphics core. It supports USB 2.0 and 3.0 for remote KVM emulation. It also provides LPC interface support to control Super IO functions. The BMC is connected to the network via an external Ethernet PHY module or shared NCSI connections.

The WPCM450/AST2400 communicates with onboard components via SMBus interface, PECI (Platform Environment Control Interface) buses, and General Purpose IO ports.

WPCM450/AST2400 DDR2/DDR3 Memory Interface

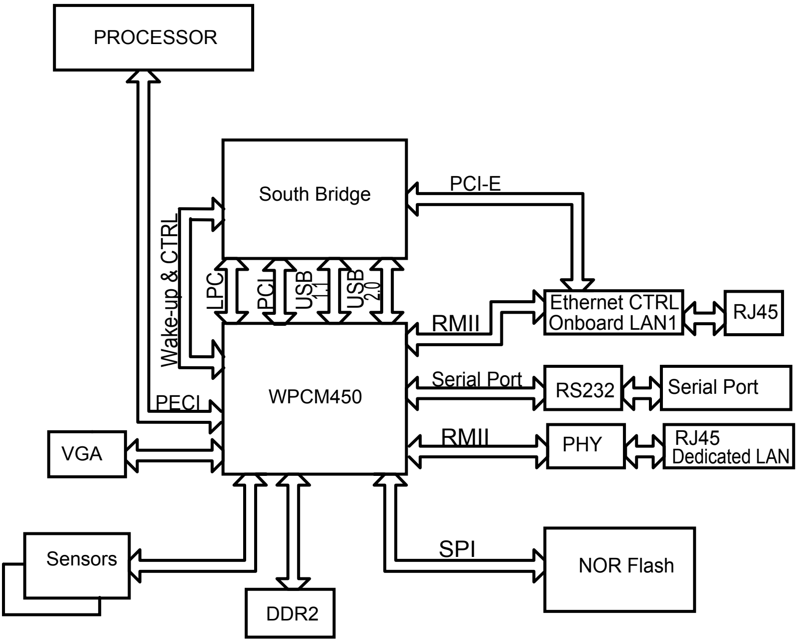
The WPCM450/AST2400 controller supports DDR2/DDR3 memory with a speed of up to 400MHz. The controller supports 128 MB of memory which is shared between the BMC and onboard graphics card. For best signal integrity, the WPCM450/AST2400 provides point-to-point connections.

WPCM450/AST2400 PCI System Interface

The WPCM450/AST2400 provides 32-bit, 33 MHz 3.3V PCI interface, which is compliant with PCI Local Bus Specification Rev. 3.0. The PCI system interface connects to the onboard PCI Bridge and is used by the graphics controller.

WPCM450 Block Diagram

The following diagram represents a typical system setup for the WPCM450 controller.



1-2 Supermicro IPMI Features

1. Remote KVM (graphics) console
2. Virtual Media and ISO images
3. Remote server power control
4. Remote Serial over LAN (text console)
5. Event Log support
6. Automatic Notification and Alerts (SNMP and email)
7. Hardware Monitoring
8. Overall health display on the main page
9. Out of band management through shared or dedicated LAN
10. Option to change LAN connection interface at Runtime
11. VLAN
12. RMCP & RMCP+ protocols supported
13. SMASH/CLP
14. Secure command line interface (SSH) and Telnet
15. WSMAN and WS-CIM
16. RADIUS authentication support
17. Secure browser interface (Secure socket layer - SSL support)
18. Lightweight Directory Access Protocol (LDAP) supported
19. DCMI 1.0 support
20. Backup and restore the configuration file
21. Factory defaults from web support
22. Video quality settings
23. Record video and play
24. Server data/information
25. Preview of the remote screen on the main page
26. Update Firmware through browser and OS
27. OS-independent

1-3 Introduction to the IPMI Platform

The Intelligent Platform Management Interface (IPMI) provides remote access to multiple users at different locations for networking. It also allows a system administrator to monitor system health and manage computer events remotely.

IPMI operates independently from the operating system. When used with an IPMI Management utility installed on the motherboard, the WPCM450/AST2400 BMC Controller will connect the South Bridge to other onboard components, providing remote network interface via serial links. With the WPCM450/AST2400 controller and the IPMI firmware built in, the Supermicro motherboard allows the user to access, monitor, diagnose, and manage a remote server via Console Redirection. It also provides remote access to multiple users from different locations for system maintenance and management.

1-4 Supported Motherboards

Please refer to the motherboard product page at www.supermicro.com to see if your motherboard supports IPMI.

1-5 An Important Note to the User

The graphics shown in this user's guide were based on the latest information available at the time of publishing of this guide. The IPMI screens shown on your computer may or may not look exactly like the screen shown in this user's guide.

Chapter 2

Configuring the IPMI Settings

With the Nuvoton WPCM450/ASpeed AST2400 BMC Controller and the IPMIView firmware built in, Supermicro motherboards allow the user to access, monitor, manage and interface with multiple systems in different remote locations. The necessary firmware for accessing and configuring the IPMI settings are available on Supermicro website at http://www.supermicro.com/products/nfo/ipmi.cfm. This section provides detailed information on how to configure the IPMI settings.

2-1 Configuring BIOS

Before configuring IPMI, follow the instructions below to configure the system BIOS settings.

A. Entering and Using the BIOS

1. During the system bootup, press the <Del> key to enter the BIOS.

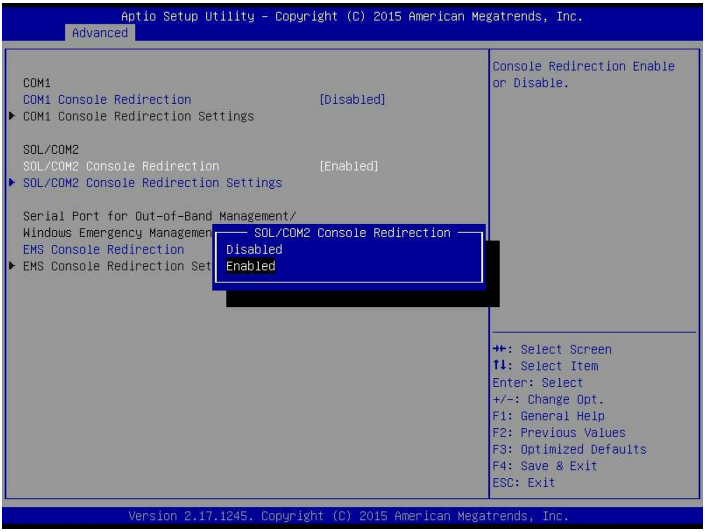
2. To navigate in the BIOS, use your arrow keys and press <Enter>. To go back to previous screens, press <Esc>.

B. Enabling the COM port for SOL (IPMI)

1. Select the *Advanced* tab.

2. Select *Serial Port Console Redirection* and press <Enter>*.*

3. Highlight *SOL/COM2 Console Redirection,* press *<Enter>* and select [Enabled].



```
        Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
    Advanced

  COM1                                                    Console Redirection Enable
  COM1 Console Redirection            [Disabled]          or Disable.
▶ COM1 Console Redirection Settings

  SOL/COM2
  SOL/COM2 Console Redirection        [Enabled]
▶ SOL/COM2 Console Redirection Settings

  Serial Port for Out-of-Band Management/
  Windows Emergency Managemen── SOL/COM2 Console Redirection ──
  EMS Console Redirection    Disabled
▶ EMS Console Redirection Set Enabled

                                                          →←: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          ESC: Exit
        Version 2.17.1245. Copyright (C) 2015 American Megatrends, Inc.
```

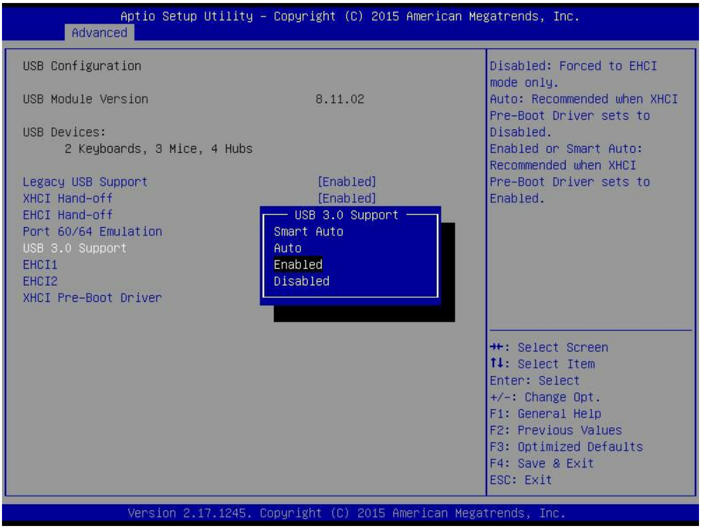
C. Enabling All Onboard USB Ports

1. Select the *Advanced* tab.

2. Select *Chipset Configuration* and press <Enter>*.*

3. Select *South Bridge* and press <Enter>.

4. Highlight *USB 3.0 Support,* press <Enter> and select [Enabled].



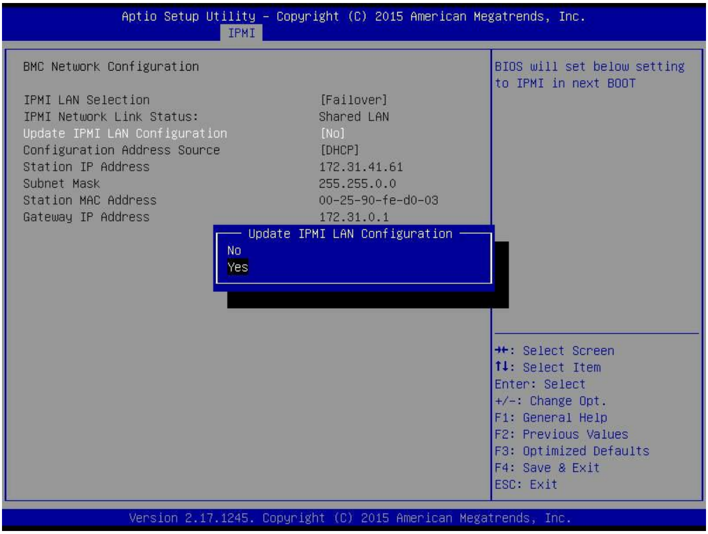
```
            Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
          Advanced

  USB Configuration                                   Disabled: Forced to EHCI
                                                      mode only.
  USB Module Version               8.11.02            Auto: Recommended when XHCI
                                                      Pre-Boot Driver sets to
  USB Devices:                                        Disabled.
        2 Keyboards, 3 Mice, 4 Hubs                   Enabled or Smart Auto:
                                                      Recommended when XHCI
  Legacy USB Support                [Enabled]         Pre-Boot Driver sets to
  XHCI Hand-off                     [Enabled]         Enabled.
  EHCI Hand-off                 USB 3.0 Support
  Port 60/64 Emulation         Smart Auto
  USB 3.0 Support              Auto
  EHCI1                        Enabled
  EHCI2                        Disabled
  XHCI Pre-Boot Driver

                                                      →←: Select Screen
                                                      ↑↓: Select Item
                                                      Enter: Select
                                                      +/-: Change Opt.
                                                      F1: General Help
                                                      F2: Previous Values
                                                      F3: Optimized Defaults
                                                      F4: Save & Exit
                                                      ESC: Exit

            Version 2.17.1245. Copyright (C) 2015 American Megatrends, Inc.
```

D. Configuring IP Address Using the BIOS

1. Select the *IPMI* tab.

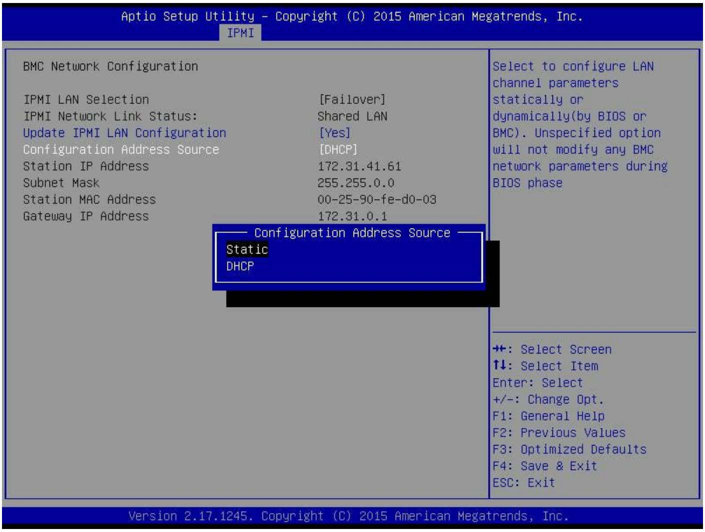
2. Select *BMC Network Configuration* and press <Enter>*.*

3. Highlight *Update IPMI LAN Configuration,* press *<Enter>* and select [Yes].



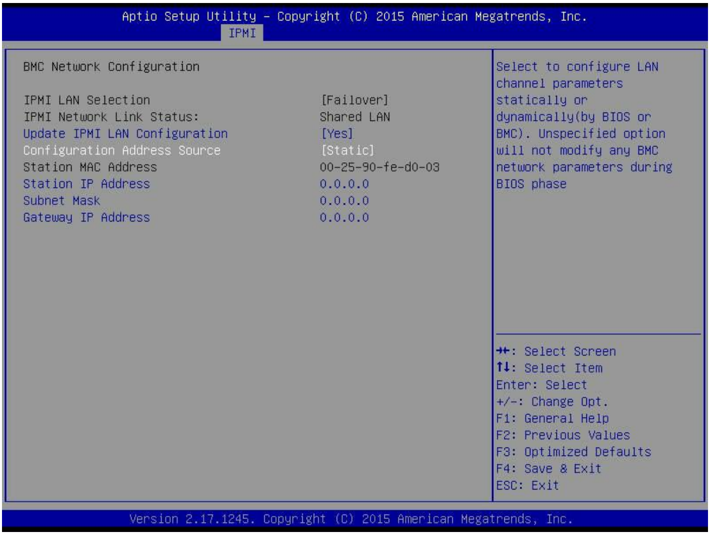
```
          Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
                            IPMI
 BMC Network Configuration                              | BIOS will set below setting
                                                        | to IPMI in next BOOT
 IPMI LAN Selection                 [Failover]          |
 IPMI Network Link Status:          Shared LAN          |
 Update IPMI LAN Configuration      [No]                |
 Configuration Address Source       [DHCP]              |
 Station IP Address                 172.31.41.61        |
 Subnet Mask                        255.255.0.0         |
 Station MAC Address                00-25-90-fe-d0-03   |
 Gateway IP Address                 172.31.0.1          |
                       ┌ Update IPMI LAN Configuration ┐
                       │ No                            │
                       │ Yes                           │
                       └───────────────────────────────┘
                                                        | →←: Select Screen
                                                        | ↑↓: Select Item
                                                        | Enter: Select
                                                        | +/-: Change Opt.
                                                        | F1: General Help
                                                        | F2: Previous Values
                                                        | F3: Optimized Defaults
                                                        | F4: Save & Exit
                                                        | ESC: Exit
          Version 2.17.1245. Copyright (C) 2015 American Megatrends, Inc.
```

4. Highlight *Configuration Address Source* and select [Static].



```
          Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
                            IPMI
 BMC Network Configuration                              | Select to configure LAN
                                                        | channel parameters
 IPMI LAN Selection                 [Failover]          | statically or
 IPMI Network Link Status:          Shared LAN          | dynamically(by BIOS or
 Update IPMI LAN Configuration      [Yes]               | BMC). Unspecified option
 Configuration Address Source       [DHCP]              | will not modify any BMC
 Station IP Address                 172.31.41.61        | network parameters during
 Subnet Mask                        255.255.0.0         | BIOS phase
 Station MAC Address                00-25-90-fe-d0-03   |
 Gateway IP Address                 172.31.0.1          |
                       ┌ Configuration Address Source ┐
                       │ Static                       │
                       │ DHCP                         │
                       └──────────────────────────────┘
                                                        | →←: Select Screen
                                                        | ↑↓: Select Item
                                                        | Enter: Select
                                                        | +/-: Change Opt.
                                                        | F1: General Help
                                                        | F2: Previous Values
                                                        | F3: Optimized Defaults
                                                        | F4: Save & Exit
                                                        | ESC: Exit
          Version 2.17.1245. Copyright (C) 2015 American Megatrends, Inc.
```

5. Once the *Configuration Address Source* is set to [Static], the *Station IP Address, Subnet Mask* and *Gateway IP Address* fields should be *0.0.0.0,* which is activated for changing. Select each of the three items and enter the values. Press <Enter> when finished.



```
            Aptio Setup Utility - Copyright (C) 2015 American Megatrends, Inc.
                                   IPMI

 BMC Network Configuration                                   Select to configure LAN
                                                             channel parameters
 IPMI LAN Selection                  [Failover]              statically or
 IPMI Network Link Status:           Shared LAN              dynamically(by BIOS or
 Update IPMI LAN Configuration       [Yes]                   BMC). Unspecified option
 Configuration Address Source        [Static]                will not modify any BMC
 Station MAC Address                 00-25-90-fe-d0-03       network parameters during
 Station IP Address                  0.0.0.0                 BIOS phase
 Subnet Mask                         0.0.0.0
 Gateway IP Address                  0.0.0.0



                                                             →←: Select Screen
                                                             ↑↓: Select Item
                                                             Enter: Select
                                                             +/-: Change Opt.
                                                             F1: General Help
                                                             F2: Previous Values
                                                             F3: Optimized Defaults
                                                             F4: Save & Exit
                                                             ESC: Exit

             Version 2.17.1245. Copyright (C) 2015 American Megatrends, Inc.
```

2-2 Configuring the IP/MAC Addresses for Remote Servers

Note: The DHCP (Dynamic Host Configuration Protocol) is on by default. To change the manufacturer default setting, please use the ipmicfg utility or the BIOS Setup utility.

Using the IPMICFG Utility to Set the IP Addresses for Remote Servers

1. Run the ipmicfg utility. You can get this from the Supermicro website at www.supermicro.com or from the Supermicro ftp site at ftp://ftp.supermicro.com/utility/IPMICFG/.

2. Follow the instructions given in the readme.txt file to configure Gateway IP/Netmask IP addresses, enable/disable DHCP, and configure other IPMI settings.

IPMICFG Version 1.20.3 © 2014 Super Micro Computer, Inc.

Usage: IPMICFG Parameters

-m	Show IP and MAC
-m IP	Set IP (format: ###.###.###.###)
-a MAC	Set MAC (format: ##:##:##:##:##:##)
-k	Show Subnet Mask
-k Mask	Set Subnet Mask (format: ###.###.###.###)
-dhcp	Get the DHCP status
-dhcp on	Enable the DHCP
-dhcp off	Disable the DHCP
-g	Show Gateway IP
-g IP	Set Gateway IP (format: ###.###.###.###)
-garp on	Enable the Gratuitous ARP
-garp off	Disable the Gratuitous ARP
-fd	Reset to the factory default
-fdl	Reset IPMI to the factory default (CLEAN LAN)
-fde	Reset to the factory default (clear FRU and LAN)
-ver	Get Firmware revision
-vlan	Get VLAN status
-vlan on [VLANtag]	Enable the VLAN and set the VLAN tag. If VLANtag is not given it uses previously saved value.

-vlan off	Disable the VLAN
-raw	Send a RAW IPMI request and print response.
-fan	Get fan mode
-fan <mode>	Set fan mode
-nm nmsdr	Display NM SDR
-nm seltime	Get SEL time
-nm deviceid	Get ME device ID
-nm reset	Reboot ME
-nm reset2default	Force ME reset to default
-nm updatemode	Force ME to update mode
-nm selftest	Get self-test results
-nm listimagesinfo	List ME image information
-nm oemgetpower	OEN power command for ME
-nm oemgettemp	OEM temp. commance for ME
-nm pstate	Get max. allowed CPU P-state
-nm tstate	Get max. allowed CPU T-state
-nmcpumemtemp	Get CPU/memory temperature
-nm hostcpudata	Get host CPU data
-pminfo	Power-supply PMBus health
-psfruinfo	Power-supply FRU health
-psbbpinfo	Battery backup power status
-autodischarge <module><day>	Set auto discharge by days
-discharge <module>	Manually discharge battery
-user list	List user privilege information
-user help	Show user privilege code
-user add <user id> <username> <password> <privilege>	Add user
-user del <user id>	Delete user
-user level <user id> <privilege>	Update user privilege
-user setpwd <user id> <password>	Update user password
-conf upload <file> <option>	Upload IPMI configuration from binary file
-conf download <file>	Download IPMI configuration to binary file

-conf tupload <file> <option>	Upload IPMI configuration from text file
-conf tdownload <file>	Download IPMI configuration to text file
-sdr	Show SDR records and reading
-sdr del <SDR ID>	Delete SDR record
-sdr ver [<V1> <V2>]	Get/Set SDR version (V1 V2 are BCD format)
-sel info	Show SEL info
-sel list	Show SEL records
-sel raw	Show SEL raw data
-sel del	Delete all SEL records
-fru info	Show FRU inventory area Info
-fru list	Show all FRU values
-fru help	Show help of FRU Write
-fru cthelp	Show chassis type code
-fru <Field>	Show FRU field value
-fru <Field> <Value>	Write FRU
-fru 1m	Update FRU product manufacturer from DMITable
-fru 1p	Update FRU product name from DMITable
-fru 1s	Update FRU product S/N from DMITable
-fru 2m	Update FRU board manufacturer from DMITable
-fru 2p	Update FRU board product name from DMITable
-fru 2s	Update FRU board S/N from DMITable(sdc.exe needed)
-fru 3s	Update FRU chassis S/N from DMITable
-fru backup <file>	Backup FRU to bin file
-fru restore <file>	Restore FRU from bin file
-fru tbackup <file>	Backup FRU to text file
-fru trestore <file>	Restore FRU from text file
-fru ver <V1> <V2>	Get/Set FRU version (V1, V2 are BCD format)
-fru dmi <$1> <$2> <$3> <$4> <$5> <$6> <$7> <$8> <$9> <$10> <$11> <$12> <$13> <$14>	$1 Product manufacturer name $2 Product name $3 Product part number $4 Product version $5 Product serial number $6 Product asset tag $7 Board manufacturing date/time $8 Board manufacturer name $9 Board product name $10 Board part number $11 Board serial number $12 Chassis type $13 Chassis part number $14 Chassis serial number

2-3 Connecting to the Remote Server

Using IPMIView to Connect to the Remote Server

1. Connect a LAN cable to the onboard LAN1 port or the dedicated IPMI LAN port.

2. Choose a computer that is connected to the same network and open the IPMIView utility.

3. Go to File>New>System. Enter the System Name, IP Address of LAN1 (or the dedicated LAN, and the Description in the appropriate fields, and press <Enter>.

4. Select the system from the IPMI Domain. Enter the Login ID and Password in the appropriate fields to log in to the IPMIView utility.

Using the Browser to Connect to the Remote Server

1. Connect a LAN cable to the onboard LAN1 port or the IPMI LAN port.

2. Choose a computer that is connected to the same network and open the browser.

3. Enter the IP address of each server that you want to connect to in the address bar of your browser.

4. Once the connection is made, the Login screen as shown on the next page will display.

Notes:

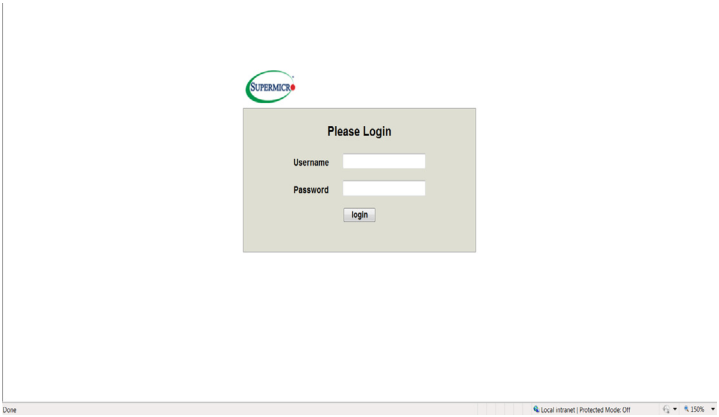
1. The default network setting is "Failover", which will allow the IPMI to connect to the network through a shared LAN port (onboard LAN Port 1 or 0) or through the IPMI Dedicated LAN Port. If the IPMI must be connected through a specific port, please change the LAN configuration setting under the Network Settings.

2. For IPMI to work properly, please enable all onboard USB ports and the COM port designated for SOL (IPMI) on the motherboard. All USB ports and the COM port for IPMI are **enabled** in the system BIOS by default. The COM port for IPMI is marked with "*" in the BIOS. It is usually listed as COM2 or COM3 in the BIOS. Refer to Section 2-1 Configuring BIOS for more information.

2-4 Accessing the Remote Server via Console Redirection Using the Browser

To Log In to the Remote Console

Once you are connected to the remote server via IPMI Console Redirection, the following IPMI Login screen will display.



1. Enter your username in the *Username* box.

Note: The manufacturer default username and password are ADMIN/ADMIN. Once you have logged into the BMC using the manufacturer default password, be sure to change your password for security purpose.

2. Enter your password in the *Password* box and click on <Login>.

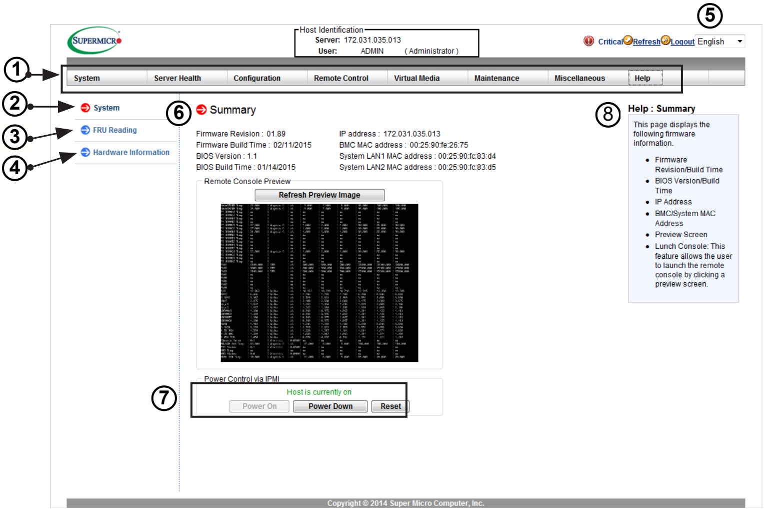
3. The home page will display as shown on the next page.

Note 1: To use the IPMIView utility for Console Redirection, please refer to the IPMIView User's Guide for instructions.

Note 2: The *Administrator* account cannot be deleted.

2.5 IPMI Main Screen

The IPMI Main screen displays the following information.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Firmware Revision : 01.89
Firmware Build Time : 02/11/2015
BIOS Version : 1.1
BIOS Build Time : 01/14/2015
IP address : 172.031.035.013
BMC MAC address : 00:25:90:fe:26:75
System LAN1 MAC address : 00:25:90:fc:83:d4
System LAN2 MAC address : 00:25:90:fc:83:d5

Host is currently on

This page displays the following firmware information.

- Firmware Revision/Build Time
- BIOS Version/Build Time
- IP Address
- BMC/System MAC Address
- Preview Screen
- Lunch Console: This feature allows the user to launch the remote console by clicking a preview screen.

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The IPMI Main screen displays system information, including the following:

1. The Menu bar: The menu bar on the top displays System Information, Server Health, Configuration, Remote Control, Virtual Media, Maintenance, Miscellaneous, and Help. Click an item on the menu bar to access an IPMI feature and configure its settings.

2. The System window: This window displays the System submenu items. Click an item in this window to configure the following settings.

3. FRU Reading: This page details the FRU (Field Replaceable Unit) information. Click on "FRU Reading" to display this information.

4. Hardware Information: This page shows the hardware architecture. Click on "Hardware Information" to display the following information:

- System
  - Manufacturer
  - Product Name
  - Serial No.

- BIOS
    - Vendor
    - Version
    - Release
- CPU
    - CPU1
    - CPU2
- DIMM
    - Shows the slots that are occupied by DIMM modules

      (e.g. P1-DIMMA1, P2-DIMME1)
- Power Supply
    - Upper Slot
    - Lower Slot

5. Language Select: From the pull-down menu, select a language.
    - English
    - Japanese
6. Summary: This field provides the following information:
    - Firmware Revision
    - Firmware Build Time
    - BIOS Version
    - BIOS Build Time
    - IP Address
    - BMC MAC Address
    - System LAN MAC Address (all available LANs)

- Remote Console Preview - a display of the remote system (the host machine) running at the specified IP address

7. Power Control via IPMI: This field provides options for powering on and off the host sytem.

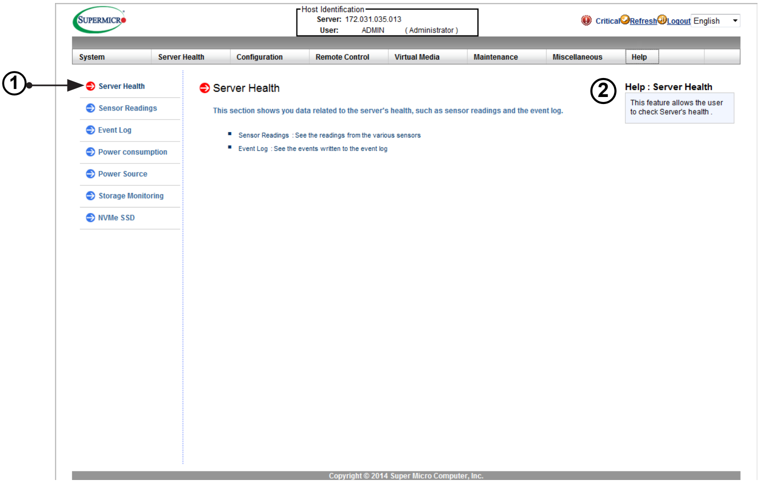
   - Power On: Click this button to power on the host system.
   - Power Down: Click this button to power off the host system.
   - Reset: Click this button to reset the host system.

8. Click on the <Help> tab to display the Help menu. The menu displays the following information:

   - Firmware Revision/Buiild Time
   - BIOS Version/Build Time
   - IP Address
   - BMC/SystemMAC Address
   - Preview Screen
   - Launch Console: This feature allows the user to launch the remote console by clicking a preview screen.

2.6 Server Health

This feature allows the user to set *Server Health* settings. When you click on *Server Health* in the Options window, the following screen will display



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Server Health

This section shows you data related to the server's health, such as sensor readings and the event log.

- Sensor Readings : See the readings from the various sensors
- Event Log : See the events written to the event log

Help : Server Health

This feature allows the user to check Server's health .

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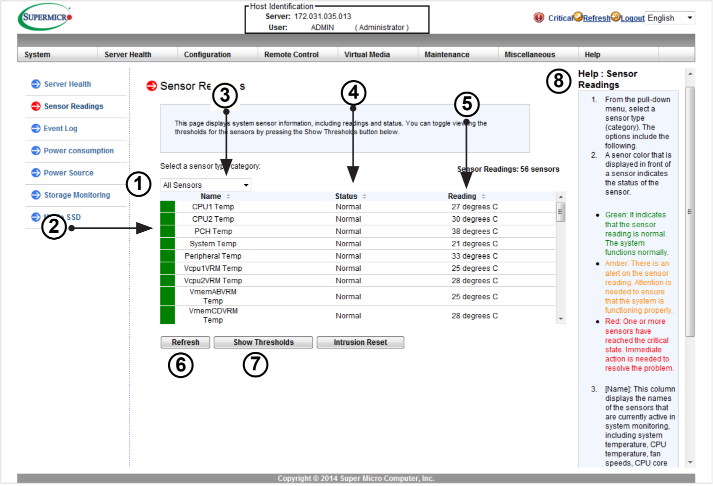
1. This section shows data related to the server's health, such as sensor readings and the event logs.

- Sensor Readings: See readings from various sensors
- Event Log: See events written to the event log

2. Click on the <Help> tab to display the Help menu. The menu displays information relating to the server's health.

2.6.1 Sensor Readings

This page displays system sensor readings for the remote console. When you click on *Sensor Readings* in the Options window, the following screen will display



Server: 172.031.035.013
User: ADMIN (Administrator)

This page displays system sensor information, including readings and status. You can toggle viewing the thresholds for the sensors by pressing the Show Thresholds button below.

Select a sensor type category:

Sensor Readings: 56 sensors

	Name	Status	Reading
🟩	CPU1 Temp	Normal	27 degrees C
🟩	CPU2 Temp	Normal	30 degrees C
🟩	PCH Temp	Normal	38 degrees C
🟩	System Temp	Normal	21 degrees C
🟩	Peripheral Temp	Normal	33 degrees C
🟩	Vcpu1VRM Temp	Normal	25 degrees C
🟩	Vcpu2VRM Temp	Normal	28 degrees C
🟩	VmemABVRM Temp	Normal	25 degrees C
🟩	VmemCDVRM Temp	Normal	28 degrees C

Help : Sensor Readings

1. From the pull-down menu, select a sensor type (category). The options include the following.
2. A senor color that is displayed in front of a sensor indicates the status of the sensor.

- Green: It indicates that the sensor reading is normal. The system functions normally.
- Amber: There is an alert on the sensor reading. Attention is needed to ensure that the system is functioning properly.
- Red: One or more sensors have reached the critical state. Immediate action is needed to resolve the problem.

3. [Name]: This column displays the names of the sensors that are currently active in system monitoring, including system temperature, CPU temperature, fan speeds, CPU core

1. From the pull-down menu, select a sensor type (category). The options include the following.

- All Sensors
- Temperature Sensors
- Voltage Sensors
- Fan Sensors
- Power Supply
- Other Units-based Sensor

2. A sensor color that is displayed in front of an sensor indicates the status of the sensor.

- Green: It indicates that the sensor reading is normal. The system functions normally.
- Amber: There is an alert on the sensor reading. Attention is needed to ensure that the system is functioning properly.

- Red: One or more sensors have reached the critical state. Immediate action is needed to resolve the problem.

- No Color: There is no sensor reading.

3. Name: This column displays the names of the sensors that are currently active in system monitoring, including system temperature, CPU temperature, fan speeds, CPU core voltages, +3.3Vcc, and +12V voltage monitoring.

4. Status: This column indicates the status of each sensor reading.

5. Reading: This column indicates the reading of each sensor.

6. Refresh: Click this item to refresh the page.

7. Show Thresholds: Click this item to display senor thresholds.

8. Click on the <Help> tab to display the Help menu. The menu displays the following information:

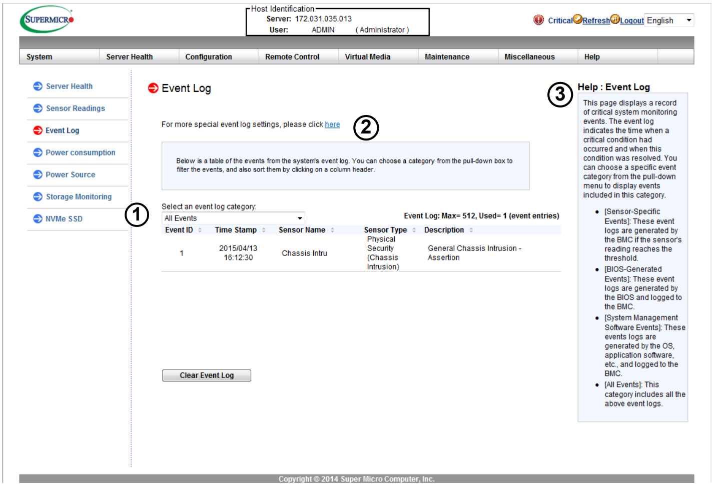
    - An explanation of the green, amber, and red sensors.

    - An explanation of each column on the page.

    - The functions of each button on the page.

2.6.2 Event Log

This page displays a record of critical system monitoring events. The event log indicates the time when a critical condition had occurred and when this condition was resolved. You can choose a specific event category from the pull-down menu to display events included in this category. When you click on *Event Log* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Event Log

For more special event log settings, please click here

Below is a table of the events from the system's event log. You can choose a category from the pull-down box to filter the events, and also sort them by clicking on a column header.

Select an event log category: All Events

Event Log: Max= 512, Used= 1 (event entries)

Event ID	Time Stamp	Sensor Name	Sensor Type	Description
1	2015/04/13 16:12:30	Chassis Intru	Physical Security (Chassis Intrusion)	General Chassis Intrusion - Assertion

Help : Event Log

This page displays a record of critical system monitoring events. The event log indicates the time when a critical condition had occurred and when this condition was resolved. You can choose a specific event category from the pull-down menu to display events included in this category.

- [Sensor-Specific Events]: These event logs are generated by the BMC if the sensor's reading reaches the threshold.
- [BIOS-Generated Events]: These event logs are generated by the BIOS and logged to the BMC.
- [System Management Software Events]: These events logs are generated by the OS, application software, etc., and logged to the BMC.
- [All Events]: This category includes all the above event logs.

1. Event Log Category: From the pull-down menu, select an event category to display.

- Sensor-Specific Events: These event logs are generated by the BMC if the sensor's reading reaches the threshold.

- BIOS-Generated Events: These event logs are generated by the BIOS and logged to the BMC.

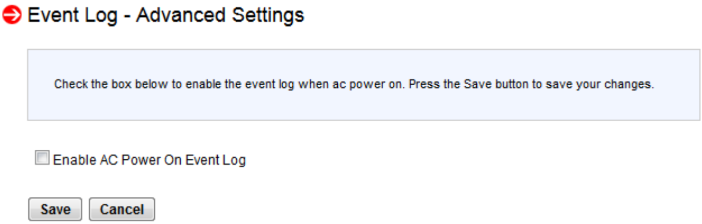
- System Management Software Events: These events logs are generated by the OS, application software, etc., and logged to the BMC.

- All Events: This category includes all the above event logs.

In addition to the events listed on the previous page, it is normal to see boot-up and shutdown events generated by the installed system software (OS). The table below lists examples of these types of events.

Sensor Type	Event
OS Boot	A: boot completed
	C: boot completed
	PXE boot completed
	Diagnostic boot completed
	CD-ROM boot completed
	ROM boot completed
	Boot completed - boot device not specified
OS Stop/Shutdown	Stop during OS load/initialization, Unexpected error during system startup, Stopped waiting for input or power cycle/reset
	Run-time stop (a.k.a 'core dump', 'blue screen')
	OS graceful stop (system powered up, but normal OS operation has shut down and system is awaiting reset pushbutton, power cycle or other external input)

2. Click on <here> to see more special event log settings. You will see the an option to enable AC Power On Event Log. Check the box to enable the option and click on <Save>.



Event Log - Advanced Settings

Check the box below to enable the event log when ac power on. Press the Save button to save your changes.

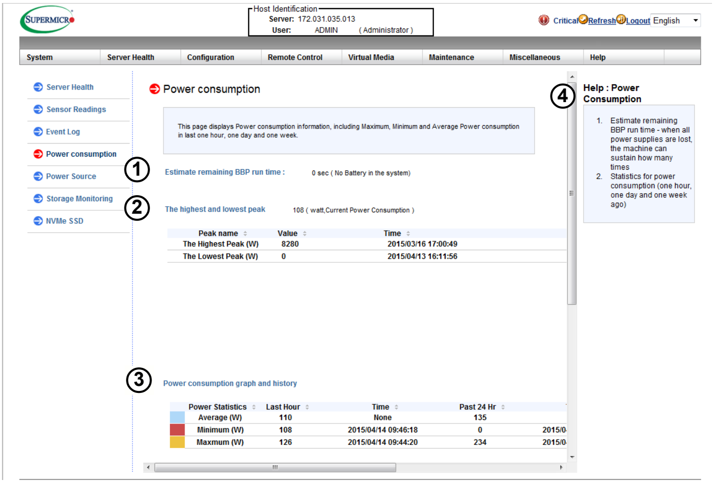
☐ Enable AC Power On Event Log

3. Click on the <Help> tab to display the Help menu. The menu displays information for the following features:

- [Sensor-Specific Events]
- [BIOS-Generated Events]
- [System Mangement Software Events]
- [All Events]

2.6.3 Power Consumption

This page displays the Maximum, Minimum and Average power consumption in the last hour, day and week. When you click on *Power Consumption* in the Options window, the following screen will display



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Power consumption

This page displays Power consumption information, including Maximum, Minimum and Average Power consumption in last one hour, one day and one week.

Estimate remaining BBP run time : 0 sec (No Battery in the system)

The highest and lowest peak 108 (watt,Current Power Consumption)

Peak name	Value	Time
The Highest Peak (W)	8280	2015/03/16 17:00:49
The Lowest Peak (W)	0	2015/04/13 16:11:56

Power consumption graph and history

	Power Statistics	Last Hour	Time	Past 24 Hr	
🟦	Average (W)	110	None	135	
🟥	Minimum (W)	108	2015/04/14 09:46:18	0	2015/0
🟨	Maxmum (W)	126	2015/04/14 09:44:20	234	2015/0

Help : Power Consumption

1. Estimate remaining BBP run time - when all power supplies are lost, the machine can sustain how many times
2. Statistics for power consumption (one hour, one day and one week ago)

1. Estimate remaining BBP run time: Displays the battery backup power run time.

2. The highest and lowest peak: Displays the highest and lowest peak of power consumption.

3. Power consumption graph and history: Displays the average, minimum and maximum power consumption of the past hour and week.

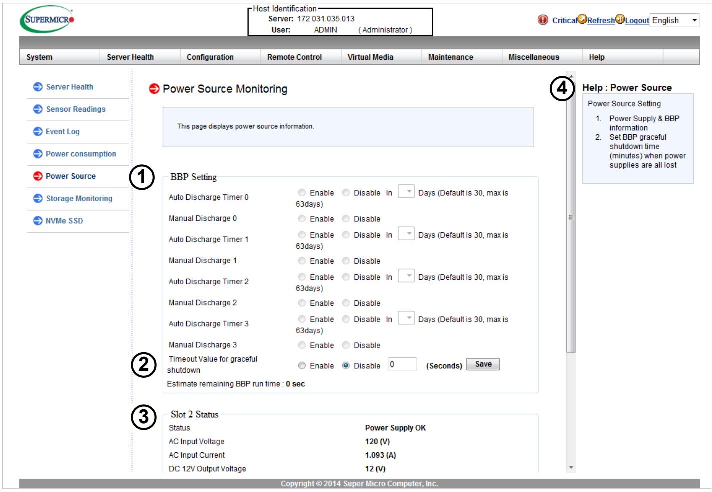
4. Click on the <Help> tab to display the Help menu. The menu displays the following information:

- The estimated BBP run time.

- Power consumption for one hour, day, and week.

2.6.4 Power Source

This page displays the power source information. When you click on *Power Source* in the Options window, the following screen will display



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Power Source Monitoring

This page displays power source information.

BBP Setting

Auto Discharge Timer 0	○ Enable ○ Disable In [ ] Days (Default is 30, max is 63days)
Manual Discharge 0	○ Enable ○ Disable
Auto Discharge Timer 1	○ Enable ○ Disable In [ ] Days (Default is 30, max is 63days)
Manual Discharge 1	○ Enable ○ Disable
Auto Discharge Timer 2	○ Enable ○ Disable In [ ] Days (Default is 30, max is 63days)
Manual Discharge 2	○ Enable ○ Disable
Auto Discharge Timer 3	○ Enable ○ Disable In [ ] Days (Default is 30, max is 63days)
Manual Discharge 3	○ Enable ○ Disable
Timeout Value for graceful shutdown	○ Enable ● Disable 0 (Seconds)

Estimate remaining BBP run time : 0 sec

Slot 2 Status

Status	Power Supply OK
AC Input Voltage	120 (V)
AC Input Current	1.093 (A)
DC 12V Output Voltage	12 (V)

Help : Power Source

Power Source Setting

1. Power Supply & BBP information
2. Set BBP graceful shutdown time (minutes) when power supplies are all lost

1. BBP Setting: Displays the battery backup power settings. You can enable or disable the graceful shutdown and specify the timeout value (in seconds).

2. Timeout Value for graceful shutdown: This feature allows you to enable or disable a graceful shutdown. Specify the timeout value in seconds.

3. Slot 2 Status: Displays the following information for the indicated slot:

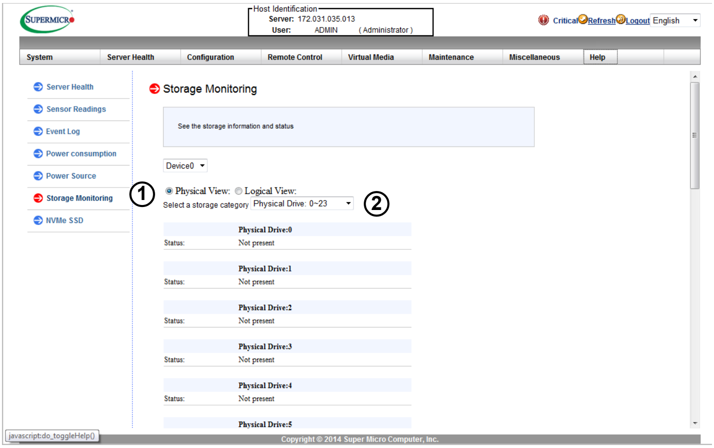
   - Status
   - AC Input Voltage
   - AC Input Current
   - DC 12V OUtput Voltage
   - DC 12VOUtput Current
   - Temperature 1

- Temperature 2
- Fan 1
- Fan 2
- DC 12V Output Power
- AC Input Power
- PWS Serial Number

4. Click on the <Help> tab to display the Help menu. The menu displays details on the power source settings:

2.6.5 Storage Monitoring

This page displays the storage information and status. When you click on *Storage Monitoring* in the Options window, the following screen will display



Storage Monitoring

See the storage information and status

Device0

● Physical View: ○ Logical View:

Select a storage category: Physical Drive: 0~23

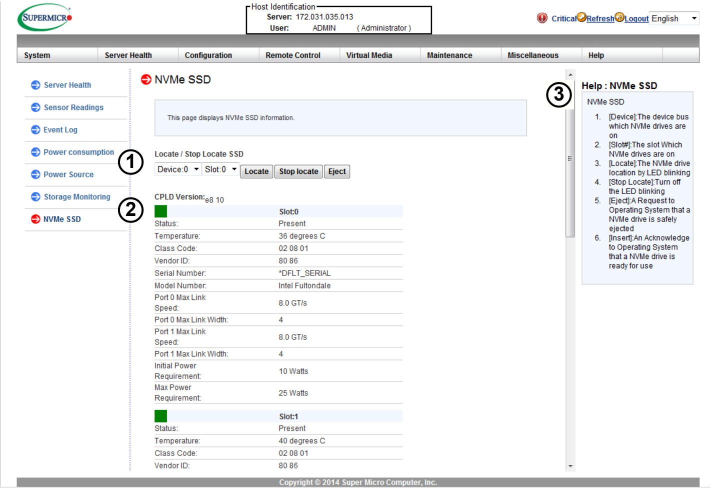
	Physical Drive:0
Status:	Not present
	Physical Drive:1
Status:	Not present
	Physical Drive:2
Status:	Not present
	Physical Drive:3
Status:	Not present
	Physical Drive:4
Status:	Not present
	Physical Drive:5

1. Click on <Physical View> or <Logical View>.

2. If you have clicked on <Physical View>, select the physical drive from the drop-down menu to view the drive numbers and their status. If you have clicked on <Logical View>, select logical volume from the drop-down menu to view the logical volumes and their status.

2.6.6 NVMe SSD

This page displays the NVM3 SSD information and status. When you click on *NVMe SSD* in the Options window, the following screen will display



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

NVMe SSD

This page displays NVMe SSD information.

Locate / Stop Locate SSD

Device:0 Slot:0

CPLD Version: e8 10

🟩	Slot:0
Status:	Present
Temperature:	36 degrees C
Class Code:	02 08 01
Vendor ID:	80 86
Serial Number:	*DFLT_SERIAL
Model Number:	Intel Fultondale
Port 0 Max Link Speed:	8.0 GT/s
Port 0 Max Link Width:	4
Port 1 Max Link Speed:	8.0 GT/s
Port 1 Max Link Width:	4
Initial Power Requirement:	10 Watts
Max Power Requirement:	25 Watts

🟩	Slot:1
Status:	Present
Temperature:	40 degrees C
Class Code:	02 08 01
Vendor ID:	80 86

Help : NVMe SSD

NVMe SSD

1. [Device]:The device bus which NVMe drives are on
2. [Slot#]:The slot Which NVMe drives are on
3. [Locate]:The NVMe drive location by LED blinking
4. [Stop Locate]:Turn off the LED blinking
5. [Eject]:A Request to Operating System that a NVMe drive is safely ejected
6. [Insert]:An Acknowledge to Operating System that a NVMe drive is ready for use

1. Select the device from the drop-down menu and its location from the drop-down menu that displays the slot number. After you have selected a device and its location, click on <Locate>, <Stop Locate>, or <Eject>.

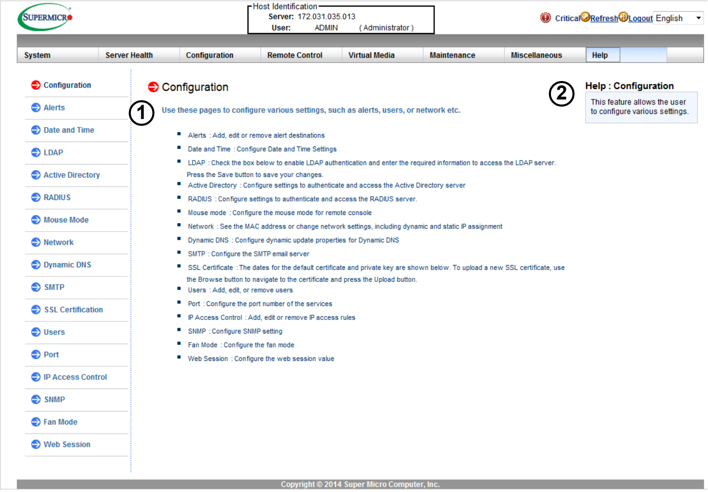
2. Displays information on the selected device and slot.

3. Click on the <Help> tab to display the Help menu. The menu displays the following information:

   - [Device]: The device bus which NVMe drives are on.
   - [Slot#]: The slot which NVMe drives are on.
   - [Locate]: The NVMe drive location by LED blinking.
   - [Stop]: Turn off the LED blinking.
   - [Eject]: A request to the operating system that an NVMe drive is safely ejected.
   - [Insert]: An acknowledgement to the operating system that an NVMe drive is ready for use.

2.7 Configuration

This feature allows the user to configure various network settings. When you click the *Configuration* on the menu bar, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Configuration

Use these pages to configure various settings, such as alerts, users, or network etc.

- Alerts : Add, edit or remove alert destinations
- Date and Time : Configure Date and Time Settings
- LDAP : Check the box below to enable LDAP authentication and enter the required information to access the LDAP server. Press the Save button to save your changes.
- Active Directory : Configure settings to authenticate and access the Active Directory server
- RADIUS : Configure settings to authenticate and access the RADIUS server.
- Mouse mode : Configure the mouse mode for remote console
- Network : See the MAC address or change network settings, including dynamic and static IP assignment
- Dynamic DNS : Configure dynamic update properties for Dynamic DNS
- SMTP : Configure the SMTP email server
- SSL Certificate : The dates for the default certificate and private key are shown below. To upload a new SSL certificate, use the Browse button to navigate to the certificate and press the Upload button.
- Users : Add, edit, or remove users
- Port : Configure the port number of the services
- IP Access Control : Add, edit or remove IP access rules
- SNMP : Configure SNMP setting
- Fan Mode : Configure the fan mode
- Web Session : Configure the web session value

Help : Configuration

This feature allows the user to configure various settings.

1. This section allows the user to configure the following settings.

   - Alerts: Use this item to configure alert destination settings.

   - Date & Time

   - LDAP: Use this item to configure LDAP (Lightweight Directory Access Protocol) settings for authentication and access to the LDAP server.

   - Active Directory: Use this item to configure the settings for authentication and access to the Active Directory server.

   - Radius: Use this item to configure the settings for authentication and access to the Radius server.

   - Mouse mode

   - Network

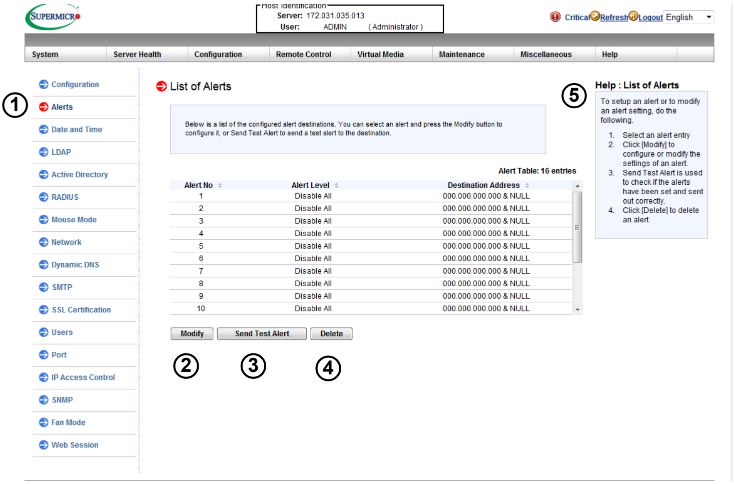
   - Dynamic DNS

- SMTP
- SSL Certificate
- Users
- Port
- IP Access Control
- SNMP
- Fan Mode
- Web Session

2. Click on the <Help> tab to display the Help menu for the *Configuration* screen.

2.7.1 Alerts

This feature allows the user to configure *Alert* settings. When you click on *Alerts* in the menu bar, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

List of Alerts

Below is a list of the configured alert destinations. You can select an alert and press the Modify button to configure it, or Send Test Alert to send a test alert to the destination.

Alert Table: 16 entries

Alert No	Alert Level	Destination Address
1	Disable All	000.000.000.000 & NULL
2	Disable All	000.000.000.000 & NULL
3	Disable All	000.000.000.000 & NULL
4	Disable All	000.000.000.000 & NULL
5	Disable All	000.000.000.000 & NULL
6	Disable All	000.000.000.000 & NULL
7	Disable All	000.000.000.000 & NULL
8	Disable All	000.000.000.000 & NULL
9	Disable All	000.000.000.000 & NULL
10	Disable All	000.000.000.000 & NULL

Help : List of Alerts

To setup an alert or to modify an alert setting, do the following.

1. Select an alert entry
2. Click [Modify] to configure or modify the settings of an alert.
3. Send Test Alert is used to check if the alerts have been set and sent out correctly.
4. Click [Delete] to delete an alert.

To setup an alert or to modify an alert setting, do the following.

1. Click on <Alerts> to activate the alert submenu.

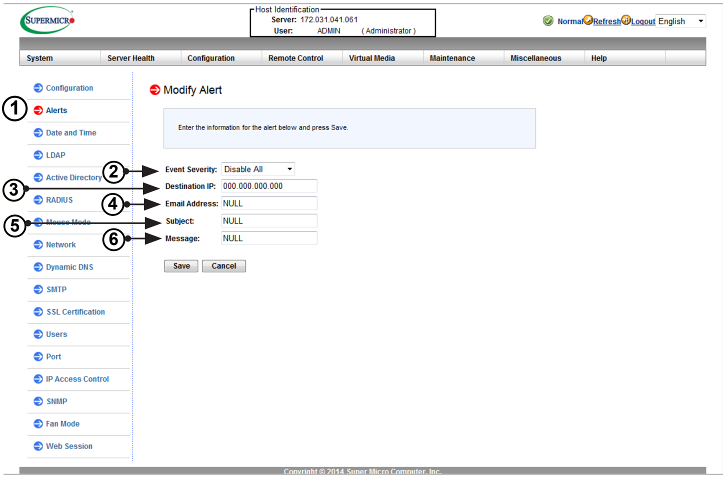
2. Click on <Modify> to configure or modify the settings of an alert.

3. *Send Test Alert* is used to check if the alerts have been set and sent out correctly.

4. Click on <Delete> to delete an alert.

5. Click on the <Help> tab to display the Help menu. This menu shows you how to set up or modify an alert.

To Setup an Alert



Host Identification
Server: 172.031.041.061
User: ADMIN (Administrator)

Modify Alert

Enter the information for the alert below and press Save.

Event Severity: Disable All
Destination IP: 000.000.000.000
Email Address: NULL
Subject: NULL
Message: NULL

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Follow the steps below to setup an alert.

1. Select *Alerts* from the window on the left. Highlight the alert and select *Modify*.

2. Select *Event Severity*.

3. Enter the destination IP address to use SNMP. For further guidance on typical inquiries relating to SNMP, see the table on the next page.

Item	***Answer***
SNMP version number	SNMP version 2.
MIB community name	A community name is not required since SNMP version 2 only uses traps.
MIB file location	Go to http://www.supermicro.com/products/nfo/IPMI.cfm and click on “IPMI MIB (SMT)” (right-hand side of the page).
The IPMI item you need to configure so the SNMP manager can receive the SNMP trap	The alert LAN destination address (see #4 under 2.4.1) must be set to the same IP in as the SNMP manager.
Can I query for detailed information on the MIB "Event" trap items?	Detailed queries are not possible because event mapping is based only on sensor type, event type, and sensor offset.
A list of trap items generated for my platform	No standard list of event traps exist because the PEF (Platform Event Filter) table is OEM customizable.

4. Enter the email address to send the alert to, then configure the SMTP settings (see section 2.8.10)

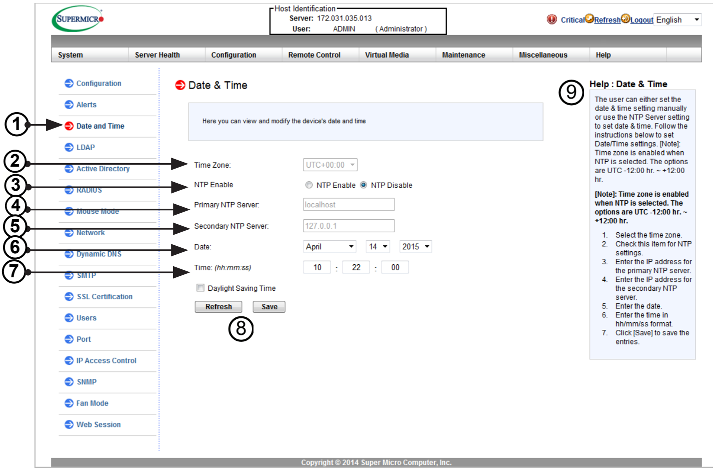
5. Enter the subject line of the alert.

6. Enter a message for the alert.

Click on <Save> to save the settings.

2.7.2 Date and Time

This feature allows the user to configure the time and date settings for the host server and the client computer. When you click on *Time and Date* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Date & Time

Here you can view and modify the device's date and time

Time Zone: UTC+00:00

NTP Enable ○ NTP Enable ● NTP Disable

Primary NTP Server: localhost

Secondary NTP Server: 127.0.0.1

Date: April 14 2015

Time: *(hh:mm:ss)* 10 : 22 : 00

□ Daylight Saving Time

Help : Date & Time

The user can either set the date & time setting manually or use the NTP Server setting to set date & time. Follow the instructions below to set Date/Time settings. [Note]: Time zone is enabled when NTP is selected. The options are UTC -12:00 hr. ~ +12:00 hr.

[Note]: Time zone is enabled when NTP is selected. The options are UTC -12:00 hr. ~ +12:00 hr.

1. Select the time zone.
2. Check this item for NTP settings.
3. Enter the IP address for the primary NTP server.
4. Enter the IP address for the secondary NTP server.
5. Enter the date.
6. Enter the time in hh/mm/ss format.
7. Click [Save] to save the entries.

The user can either set the date & time setting manually or use the *NTP Server* setting to set date & time. Follow the instructions below to set Date/Time settings.

> **Note**: Time zone is enabled when *NTP* is selected. The options are UTC -12:00 hr. ~ +12:00 hr.

1. Click on *Date/Time* on the left to set the date/time settings.

2. Select the time zone.

3. Check this item for NTP settings.

4. Enter the IP address for the primary NTP server.

5. Enter the IP address for the secondary NTP server.

6. Enter the date.

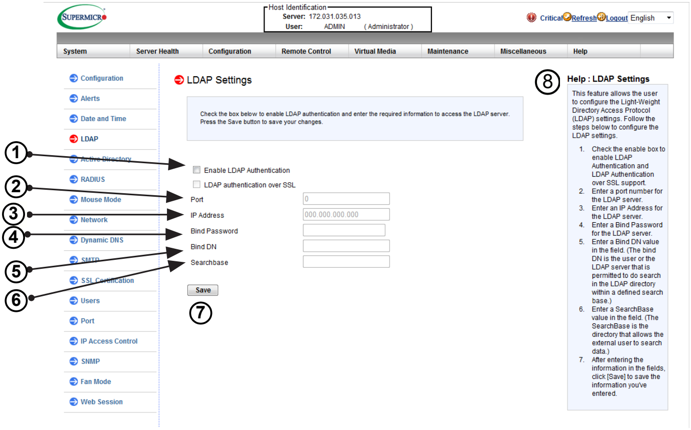
7. Enter the time in hh/mm/ss format.

8. Click on <Refresh> to change the date/time settings. Click on <Save> to save the settings.

9. Click on the <Help> tab to display the Help menu. This menu includes instructions on how to the date and time.

2.7.3 LDAP

This feature allows the user to configure the *Light-Weight Directory Access Protocol* (LDAP) settings. When you click on *LDAP* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

LDAP Settings

Check the box below to enable LDAP authentication and enter the required information to access the LDAP server.
Press the Save button to save your changes.

□ Enable LDAP Authentication
□ LDAP authentication over SSL
Port: 0
IP Address: 000.000.000.000
Bind Password:
Bind DN:
Searchbase:

Help : LDAP Settings

This feature allows the user to configure the Light-Weight Directory Access Protocol (LDAP) settings. Follow the steps below to configure the LDAP settings.

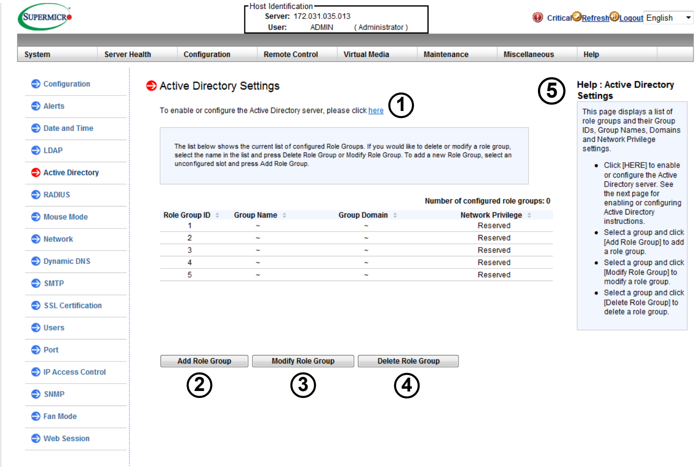
1. Check the enable box to enable LDAP Authentication and LDAP Authentication over SSL support.
2. Enter a port number for the LDAP server.
3. Enter an IP Address for the LDAP server.
4. Enter a Bind Password for the LDAP server.
5. Enter a Bind DN value in the field. (The bind DN is the user or the LDAP server that is permitted to do search in the LDAP directory within a defined search base.)
6. Enter a SearchBase value in the field. (The SearchBase is the directory that allows the external user to search data.)
7. After entering the information in the fields, click [Save] to save the information you've entered.

Follow the steps below to configure the LDAP settings.

1. Check the enable box to enable *LDAP Authentication and LDAP Authentication over SSL* support.
2. Enter a port number for the LDAP server.
3. Enter an IP Address for the LDAP server.
4. Enter a Bind Password for the LDAP server.
5. Enter a Bind DN value in the field. (The bind DN is the user or the LDAP server that is permitted to do search in the LDAP directory within a defined search base.)
6. Enter a SearchBase value in the field. (The SearchBase is the directory that allows the external user to search data.)
7. Click on <Save> to save the settings.
8. Click on the <Help> tab to display the Help menu. This menu provides an explanation of all the options displayed on the page.

2.7.4 Active Directory

This page displays a list of role groups and their Group IDs, Group Names, Domains and Network Privilege settings. When you click on *Active Directory* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Active Directory Settings

To enable or configure the Active Directory server, please click here

The list below shows the current list of configured Role Groups. If you would like to delete or modify a role group, select the name in the list and press Delete Role Group or Modify Role Group. To add a new Role Group, select an unconfigured slot and press Add Role Group.

Number of configured role groups: 0

Role Group ID	Group Name	Group Domain	Network Privilege
1	~	~	Reserved
2	~	~	Reserved
3	~	~	Reserved
4	~	~	Reserved
5	~	~	Reserved

Help : Active Directory Settings

This page displays a list of role groups and their Group IDs, Group Names, Domains and Network Privilege settings.

- Click [HERE] to enable or configure the Active Directory server. See the next page for enabling or configuring Active Directory instructions.
- Select a group and click [Add Role Group] to add a role group.
- Select a group and click [Modify Role Group] to modify a role group.
- Select a group and click [Delete Role Group] to delete a role group.

1. Click on <HERE> to enable or configure the Active Directory server. See the next page for enabling or configuring Active Directory instructions.

2. Select a group and click on <Add> to add a role group.

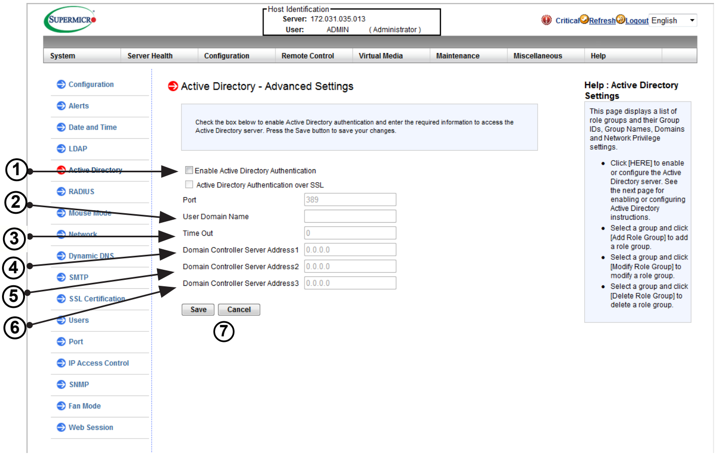
3. Select a group and click on <Modify> to modify a role group.

4. Select a group and click on <Delete> to delete a role group.

5. Click on the <Help> tab to display the Help menu. This menu provides instructions on how to add, modify, and delete a role group.

Configuring the Active Directory Settings

This feature allows the user to configure the *Advanced Active Directory* settings. When you click *Here* on the screen shown on the previous page, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Active Directory - Advanced Settings

Check the box below to enable Active Directory authentication and enter the required information to access the Active Directory server. Press the Save button to save your changes.

□ Enable Active Directory Authentication

□ Active Directory Authentication over SSL

Port: 389

User Domain Name:

Time Out: 0

Domain Controller Server Address1: 0.0.0.0

Domain Controller Server Address2: 0.0.0.0

Domain Controller Server Address3: 0.0.0.0

Help : Active Directory Settings

This page displays a list of role groups and their Group IDs, Group Names, Domains and Network Privilege settings.

- Click [HERE] to enable or configure the Active Directory server. See the next page for enabling or configuring Active Directory instructions.
- Select a group and click [Add Role Group] to add a role group.
- Select a group and click [Modify Role Group] to modify a role group.
- Select a group and click [Delete Role Group] to delete a role group.

1. Check the <Enable> box to enable *Active Directory* authentication support. Then, Enter the values in the fields below.

2. Enter User Domain Name in the field.

3. Enter Time Out value in the field to set the time limit for a user to stay logging-in.

4. Enter <Controller Server Address1>.

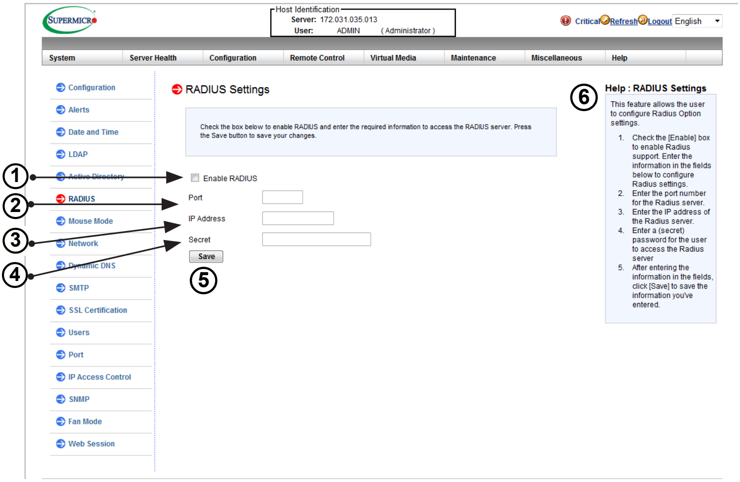
5. Enter <Controller Server Address2>.

6. Enter <Controller Server Address3>.

7. Click on <Save> to save the settings.

2.7.5 RADIUS

This feature allows the user to configure *Radius Option* settings. When you click on *Radius* in the Options Window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

RADIUS Settings

Check the box below to enable RADIUS and enter the required information to access the RADIUS server. Press the Save button to save your changes.

☐ Enable RADIUS

Port

IP Address

Secret

Help : RADIUS Settings

This feature allows the user to configure Radius Option settings.

1. Check the [Enable] box to enable Radius support. Enter the information in the fields below to configure Radius settings.
2. Enter the port number for the Radius server.
3. Enter the IP address of the Radius server.
4. Enter a (secret) password for the user to access the Radius server
5. After entering the information in the fields, click [Save] to save the information you've entered.

1. Check the <Enable> box to enable *Radius* support. Enter the information in the fields below to configure *Radius* settings.

2. Enter the port number for the Radius server.

3. Enter the IP address of the Radius server.

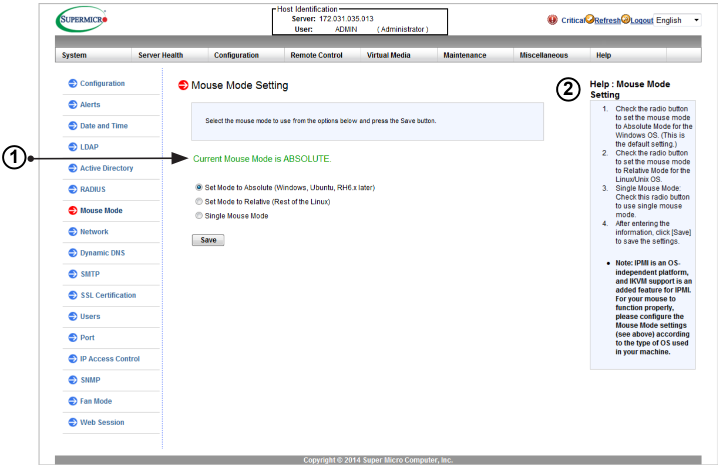
4. Enter a secret (password) for the user to access the Radius server.

5. Click on <Save> to save the settings.

6. Click on the <Help> tab to display the Help menu. The menu includes instructions on how to configure the RADIUS settings.

2.7.6 Mouse Mode

This feature allows the user to configure the *Mouse Mode* settings. When you click on *Mouse Mode* in the Options Window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Mouse Mode Setting

Select the mouse mode to use from the options below and press the Save button.

Current Mouse Mode is ABSOLUTE.

● Set Mode to Absolute (Windows, Ubuntu, RH6.x later)
○ Set Mode to Relative (Rest of the Linux)
○ Single Mouse Mode

Help : Mouse Mode Setting

1. Check the radio button to set the mouse mode to Absolute Mode for the Windows OS. (This is the default setting.)
2. Check the radio button to set the mouse mode to Relative Mode for the Linux/Unix OS.
3. Single Mouse Mode: Check this radio button to use single mouse mode.
4. After entering the information, click [Save] to save the settings.

- **Note: IPMI is an OS-independent platform, and IKVM support is an added feature for IPMI. For your mouse to function properly, please configure the Mouse Mode settings (see above) according to the type of OS used in your machine.**

1. This item displays the current Mouse Mode setting. To select a Mouse Mode setting, click on a mode shown below.

- Set Mode to Absolute (Windows, Ubuntu, RH6.x later). This is the default setting.

- Set Mode to Relative (Rest of the Linux). For other Linux operating systems.

- Single Mouse Mode: Check this to use single mouse mode.

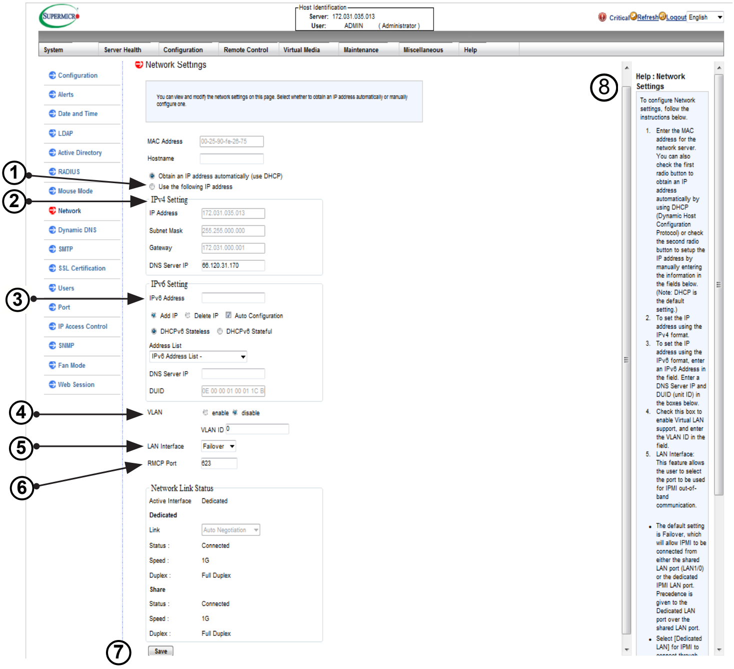
- Click on <Save> to save the settings.

Note: IPMI is an OS-independent platform, and IKVM support is an added feature for IPMI. For your mouse to function properly, please configure the Mouse Mode settings (see above) according to the type of OS used in your machine.

2. Click on the <Help> tab to display the Help menu. The menu provides an explanation of the mouse modes.

2.7.7 Network

This feature allows you to configure the network settings. When you click on *Network* in the Options Window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Network Settings

You can view and modify the network settings on this page. Select whether to obtain an IP address automatically or manually configure one.

MAC Address: 00-25-90-fe-26-75
Hostname:

● Obtain an IP address automatically (use DHCP)
○ Use the following IP address

IPv4 Setting
IP Address: 172.031.035.013
Subnet Mask: 255.255.000.000
Gateway: 172.031.000.001
DNS Server IP: 66.120.31.170

IPv6 Setting
IPv6 Address:
● Add IP ○ Delete IP ☑ Auto Configuration
● DHCPv6 Stateless ○ DHCPv6 Stateful
Address List: IPv6 Address List -
DNS Server IP:
DUID: 0E 00 00 01 00 01 1C B

VLAN: ○ enable ● disable
VLAN ID: 0
LAN Interface: Failover
RMCP Port: 623

Network Link Status
Active Interface: Dedicated
Dedicated
Link: Auto Negotiation
Status : Connected
Speed : 1G
Duplex : Full Duplex
Share
Status : Connected
Speed : 1G
Duplex : Full Duplex

Help : Network Settings

To configure Network settings, follow the instructions below.

1. Enter the MAC address for the network server. You can also check the first radio button to obtain an IP address automatically by using DHCP (Dynamic Host Configuration Protocol) or check the second radio button to setup the IP address by manually entering the information in the fields below. (Note: DHCP is the default setting.)
2. To set the IP address using the IPv4 format.
3. To set the IP address using the IPv6 format, enter an IPv6 Address in the field. Enter a DNS Server IP and DUID (unit ID) in the boxes below.
4. Check this box to enable Virtual LAN support, and enter the VLAN ID in the field.
5. LAN Interface: This feature allows the user to select the port to be used for IPMI out-of-band communication.

- The default setting is Failover, which will allow IPMI to be connected from either the shared LAN port (LAN1/0) or the dedicated IPMI LAN port. Precedence is given to the Dedicated LAN port over the shared LAN port.
- Select [Dedicated LAN] for IPMI to

To configure *Network* settings, follow the instructions below.

1. Select *Obtain an IP automatically* (use DHCP) or *Use the following IP address* to manually configure one.

2. If you select *Use the following IP address,* enter information into the following IPv4 Setting fields:

- IP address
- Subnet Mask
- Gateway
- DNS Server IP

3. To set the IP address using the IPv6 format, enter an address in the field. Enter a DNS Server IP and DUID (unit ID) in the boxes.

4. Check this box to enable Virtual LAN support and enter the VLAN ID in the field.

5. LAN Interface: This feature allows the user to select the port to be used for IPMI out-of-band communication.

- The default setting is Failover, which will allow IPMI to be connected from either the shared LAN port (LAN1/0) or the dedicated IPMI LAN port. Precedence is given to the Dedicated LAN port over the shared LAN port.

- Select <Dedicate> for IPMI to connect through the IPMI Dedicated LAN port at all time.

- Select <*Share*> for IPMI to connect through the LAN port on the board.

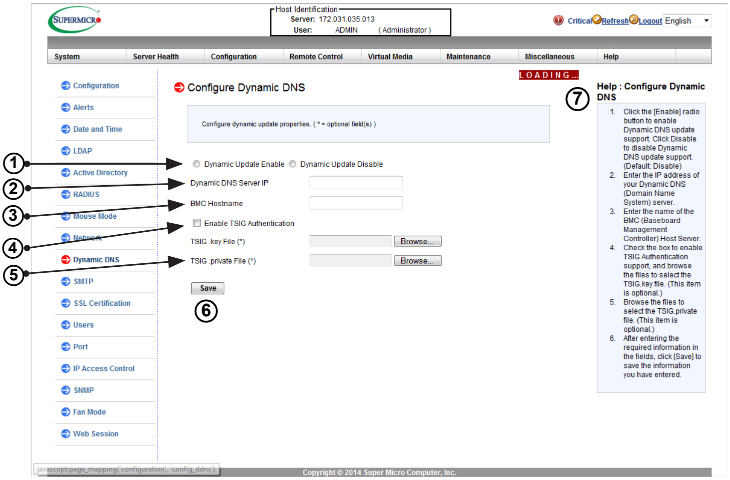
6. RMCP Port: This feature allows the user to select the desired RMCP (Remote Management Control Protocol) port. The default port is 623.

7. Click on <Save> to save the settings.

8. Click on the <Help> tab to display the Help menu. The menu inlcudes instructions on how to configure the Network settings.

2.7.8 Dynamic DNS

This feature allows you to configure DNS (Dynamic Name System) settings. When you click on *Dynamic DNS* in the Options Window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Configure Dynamic DNS

Configure dynamic update properties. (* = optional field(s))

○ Dynamic Update Enable ○ Dynamic Update Disable

Dynamic DNS Server IP

BMC Hostname

□ Enable TSIG Authentication

TSIG .key File (*) Browse...

TSIG .private File (*) Browse...

Save

Help : Configure Dynamic DNS

1. Click the [Enable] radio button to enable Dynamic DNS update support. Click Disable to disable Dynamic DNS update support. (Default: Disable)
2. Enter the IP address of your Dynamic DNS (Domain Name System) server.
3. Enter the name of the BMC (Baseboard Management Controller) Host Server.
4. Check the box to enable TSIG Authentication support, and browse the files to select the TSIG.key file. (This item is optional.)
5. Browse the files to select the TSIG.private file. (This item is optional.)
6. After entering the required information in the fields, click [Save] to save the information you have entered.

javascript:page_mapping('configuration', 'config_ddns')

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1. Click on <Dynamic Update Enable> to enable DNS support. Click on <Dynamic Update Disable> to disable Dynamic DNS update support. (**Default**: Disable)

2. Enter the IP address of your Dynamic DNS (Domain Name System) server.

3. Enter the name of the BMC (Baseboard Management Controller) Host Server.

4. Check the box to enable TSIG Authentication support, and browse the files to select the *TSIG.key* file. (This item is optional.)

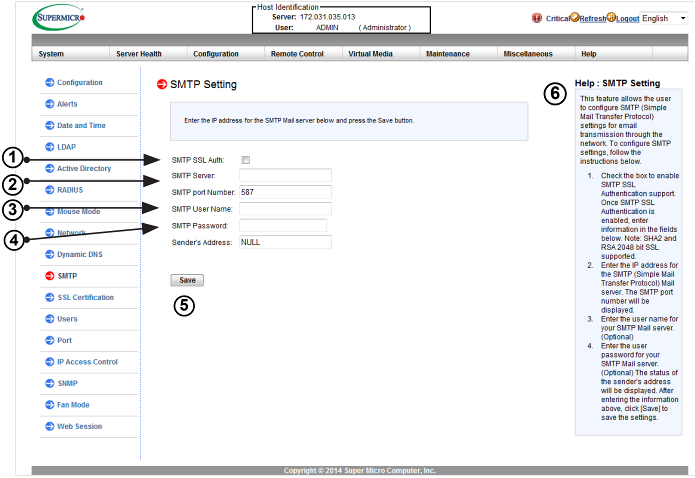
5. Click on <Browse> to locate the *TSIG.private* file. (This item is optional.)

6. Click on <Save> to save the information you have entered.

7. Click on the <Help> tab to display the Help menu. The menu inlcudes instructions on how to configure the Dynamic DNS settings.

2.7.9 SMTP

This feature allows the user to configure SMTP (Simple Mail Transfer Protocol) settings for email transmission through the network. When you click on *SMTP* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

SMTP Setting

Enter the IP address for the SMTP Mail server below and press the Save button.

SMTP SSL Auth: ☐
SMTP Server:
SMTP port Number: 587
SMTP User Name:
SMTP Password:
Sender's Address: NULL

Help : SMTP Setting

This feature allows the user to configure SMTP (Simple Mail Transfer Protocol) settings for email transmission through the network. To configure SMTP settings, follow the instructions below.

1. Check the box to enable SMTP SSL Authentication support. Once SMTP SSL Authentication is enabled, enter information in the fields below. Note: SHA2 and RSA 2048 bit SSL supported.
2. Enter the IP address for the SMTP (Simple Mail Transfer Protocol) Mail server. The SMTP port number will be displayed.
3. Enter the user name for your SMTP Mail server. (Optional)
4. Enter the user password for your SMTP Mail server. (Optional) The status of the sender's address will be displayed. After entering the information above, click [Save] to save the settings.

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To configure SMTP settings, follow the instructions below.

1. Check the box to enable SMTP SSL Authentication support. Once SMTP SSL Authentication is enabled, enter information in the fields below.

   Note: SHA2 and RSA 2048 bit SSL supported.

2. Enter the IP address for the SMTP (Simple Mail Transfer Protocol) Mail server. The SMTP port number will be displayed.

3. Enter the user name for your SMTP Mail server. (Optional)

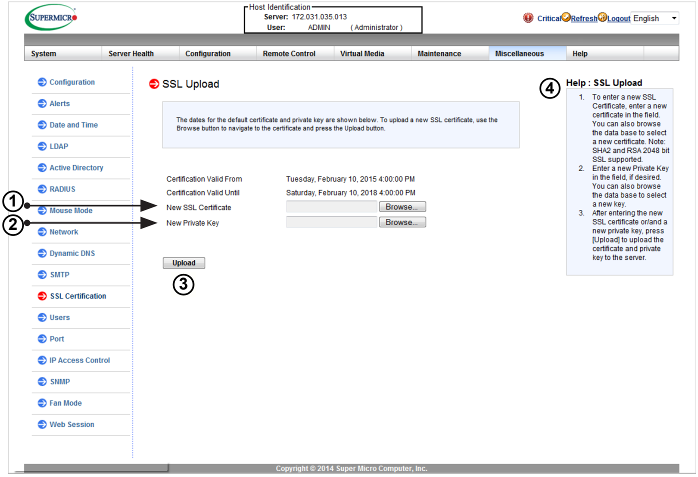
4. Enter the user password for your SMTP Mail server. (Optional) The status of the sender's address will be displayed.

5. Click on <Save> to save the settings.

6. Click on the <Help> tab to display the Help menu. The menu inlcudes instructions on how to configure the SMTP settings.

2.7.10 SSL Certification

This feature displays the default certificate and private keys. It also allows the user to upload a new SSL (secure Sockets Layer) certificate. When you click on *SSL* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

SSL Upload

The dates for the default certificate and private key are shown below. To upload a new SSL certificate, use the Browse button to navigate to the certificate and press the Upload button.

Certification Valid From Tuesday, February 10, 2015 4:00:00 PM
Certification Valid Until Saturday, February 10, 2018 4:00:00 PM
New SSL Certificate
New Private Key

Help : SSL Upload

1. To enter a new SSL Certificate, enter a new certificate in the field. You can also browse the data base to select a new certificate. Note: SHA2 and RSA 2048 bit SSL supported.
2. Enter a new Private Key in the field, if desired. You can also browse the data base to select a new key.
3. After entering the new SSL certificate or/and a new private key, press [Upload] to upload the certificate and private key to the server.

1. To enter a new SSL Certificate, enter a new certificate in the field. You can also browse the data base to select a new certificate.

   Note: SHA2 and RSA 2048 bit SSL supported.

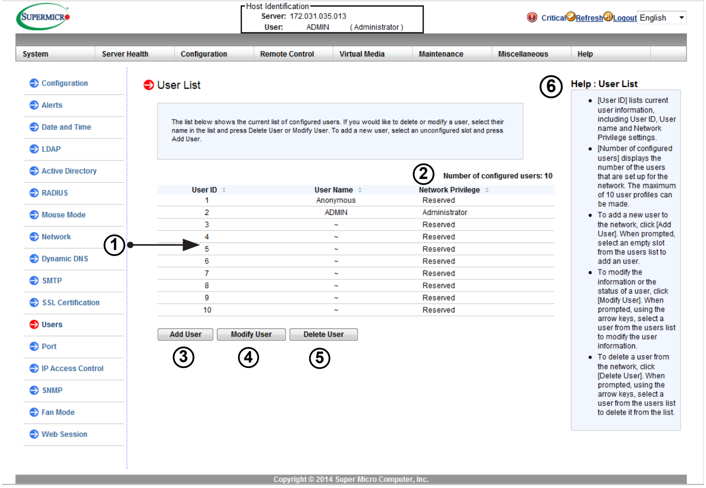
2. Enter a new Private Key in the field, if desired. You can also browse the data base to select a new key.

3. After entering the new SSL certificate and/or new private key, ckick on <Upload> to upload the certificate and/or private key to the server.

4. Click on the <Help> tab to display the Help menu. The menu includes instructions on how to set up a new SSL certificate and private key.

2.7.11 Users

This page displays information on the current users. It also allows you to add, delete or modify user information. When you click on *Users* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

User List

The list below shows the current list of configured users. If you would like to delete or modify a user, select their name in the list and press Delete User or Modify User. To add a new user, select an unconfigured slot and press Add User.

Number of configured users: 10

User ID	User Name	Network Privilege
1	Anonymous	Reserved
2	ADMIN	Administrator
3	~	Reserved
4	~	Reserved
5	~	Reserved
6	~	Reserved
7	~	Reserved
8	~	Reserved
9	~	Reserved
10	~	Reserved

Help : User List

- [User ID] lists current user information, including User ID, User name and Network Privilege settings.
- [Number of configured users] displays the number of the users that are set up for the network. The maximum of 10 user profiles can be made.
- To add a new user to the network, click [Add User]. When prompted, select an empty slot from the users list to add an user.
- To modify the information or the status of a user, click [Modify User]. When prompted, using the arrow keys, select a user from the users list to modify the user information.
- To delete a user from the network, click [Delete User]. When prompted, using the arrow keys, select a user from the users list to delete it from the list.

1. This item lists current user information, including User ID, User name and Network Privilege settings. Network privilege settings are shown below.

Function	User	Operator	Administrator
System Information	Full Access	Full Access	Full Access
Chassis Locator Control	View Only	Full Access	Full Access
FRU Reading	Full Access	Full Access	Full Access
Sensor Readings	Full Access	Full Access	Full Access
Event Log	View Only	Full Access	Full Access
Alert	No	View Only	Full Access
LDAP	No	View Only	Full Access
Mouse Mode	No	Full Access	Full Access
Network	No	View Only	Full Access
Remote Session	No	View Only	Full Access
SMTP	No	View Only	Full Access
SSL	No	View Only	Full Access
Users	No	View Only	Full Access
Event Action	No	View Only	Full Access
Power Control	View Only	Full Access	Full Access
KVM	View Only	Full Access	Full Access
F/W Update	View Only	View Only	Full Access
SDR Update	View Only	View Only	Full Access
Logout	Full Access	Full Access	Full Access

2. This item displays the number of the users that are set up for the network. The maximum of 10 user profiles can be made.

3. To add a new user to the network, click on <Add User>. When prompted, select an empty slot from the users list to add an user.

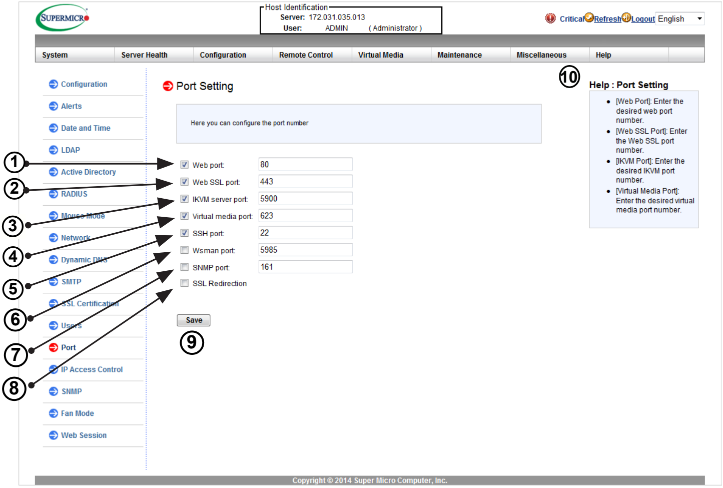
4. To modify the information or the status of a user, click on <Modify User>. When prompted, select a user from the users list to modify the user information.

5. To delete a user from the network, click on <Delete User>. When prompted, select a user from the users list to delete it from the list.

6. Click on the <Help> tab to display the Help menu. The menu displays an explanation of the columns displayed on the page and how to add, modify, and delete a user.

2.7.12 Port

This page allows you to configure port settings. When you click on *Port* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Port Setting

Here you can configure the port number

☑ Web port: 80
☑ Web SSL port: 443
☑ IKVM server port: 5900
☑ Virtual media port: 623
☑ SSH port: 22
☐ Wsman port: 5985
☐ SNMP port: 161
☐ SSL Redirection

Help : Port Setting

- [Web Port]: Enter the desired web port number.
- [Web SSL Port]: Enter the Web SSL port number.
- [IKVM Port]: Enter the desired IKVM port number.
- [Virtual Media Port]: Enter the desired virtual media port number.

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Check the box next to the port to configure the settings. Uncheck the box to disable the port.

1. Web port: Enter the web port number.

2. Web SSL port: Enter the Web SSL port number.

3. IKVM server port: Enter the IKVM port number.

4. Virtual media port: Enter the virtual media port number.

5. SSH port: Enter the SSH (Secure Shell) port number

6. Wsman port: Enter the WS-Management port number.

7. SNMP port: Enter the Simple Network Management Protocol port number.

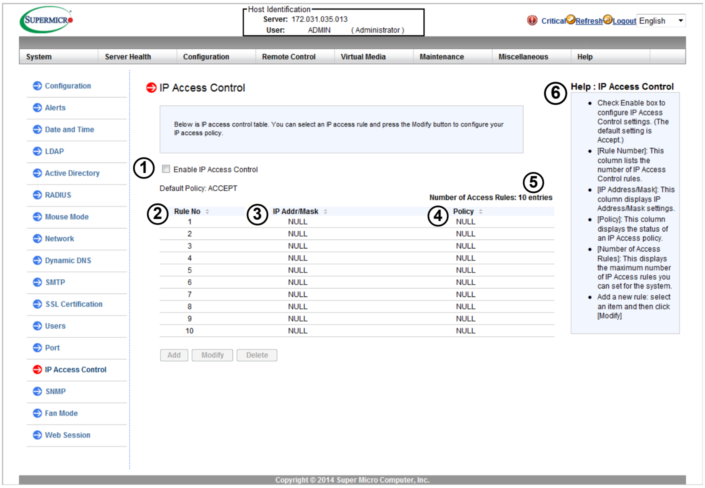
8. SSL Redirection: Check the box to allow the IPMI webUI to redirect http to https automatically.

9. Click on <Save> to save the settings.

10. Click on the <Help> tab to display the Help menu. The menu inlcudes port setting information.

2.7.13 IP Access Control

This page displays an IP Access Control table, which will allow you to add, modify and delete an IP Access rule, an IP Address/Mask setting or an IP access policy.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

IP Access Control

Below is IP access control table. You can select an IP access rule and press the Modify button to configure your IP access policy.

□ Enable IP Access Control

Default Policy: ACCEPT

Number of Access Rules: 10 entries

Rule No	IP Addr/Mask	Policy
1	NULL	NULL
2	NULL	NULL
3	NULL	NULL
4	NULL	NULL
5	NULL	NULL
6	NULL	NULL
7	NULL	NULL
8	NULL	NULL
9	NULL	NULL
10	NULL	NULL

Help : IP Access Control

- Check Enable box to configure IP Access Control settings. (The default setting is Accept.)
- [Rule Number]: This column lists the number of IP Access Control rules.
- [IP Address/Mask]: This column displays IP Address/Mask settings.
- [Policy]: This column displays the status of an IP Access policy.
- [Number of Access Rules]: This displays the maximum number of IP Access rules you can set for the system.
- Add a new rule: select an item and then click [Modify]

1. Check this box to configure IP Access Control settings. When prompted, "Do you want to enable IP access control," click on <OK>.

2. Rule Number: This column lists the number of IP Access Control rules.

3. IP Address/Mask: This column displays IP Address/Mask settings.

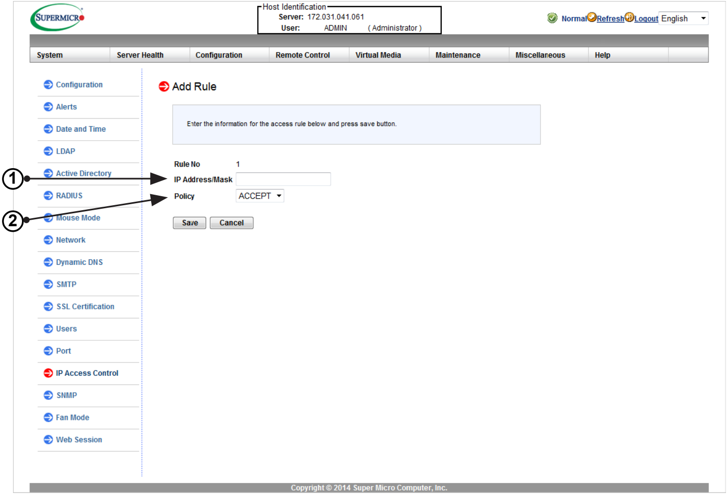
4. Policy: This column displays the status of an IP Access policy.

5. Number of Access Rules: This displays the maximum number of IP Access rules you can set for the system.

6. Click on the <Help> tab to display the Help menu. The menu inlcudes an explanation of all the columns displayed on the page.

Modifying IP Access Rules

When you select an item and click on *Modify*, the Add Rule submenu will display as shown below.



Add Rule

Enter the information for the access rule below and press save button.

Rule No 1
IP Address/Mask
Policy ACCEPT

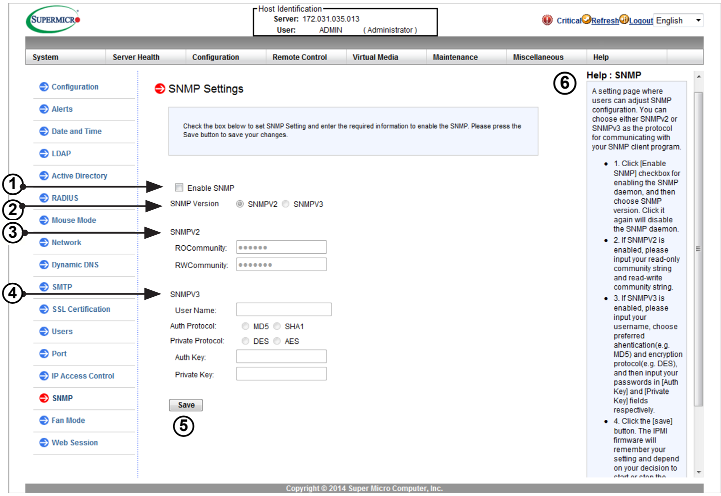
To modify a rule, enter the information needed for the following items:

1. IP Address/Mask: This item allows you to grant access to a specific IP address or a range of IP addresses. For example, if you wanted to specify a range of IP addresses from 192.168.0.1 to 192.168.0.126, you would enter 192.168.0.1/25.

2. Policy: Select <Accept> to allow access for the IP address(es) entered above. Select Drop to deny access.

2.7.14 SNMP

This feature allows the user to configure the SNMP (Simple Network Management Protocol). When you click on *SNMP* in the Options window, the following screen will display.



SNMP Settings

Check the box below to set SNMP Setting and enter the required information to enable the SNMP. Please press the Save button to save your changes.

□ Enable SNMP

SNMP Version ● SNMPV2 ○ SNMPV3

SNMPV2

ROCommunity: ••••••

RWCommunity: •••••••

SNMPV3

User Name:

Auth Protocol: ○ MD5 ○ SHA1

Private Protocol: ○ DES ○ AES

Auth Key:

Private Key:

Help : SNMP

A setting page where users can adjust SNMP configuration. You can choose either SNMPv2 or SNMPv3 as the protocol for communicating with your SNMP client program.

- 1. Click [Enable SNMP] checkbox for enabling the SNMP daemon, and then choose SNMP version. Click it again will disable the SNMP daemon.
- 2. If SNMPV2 is enabled, please input your read-only community string and read-write community string.
- 3. If SNMPV3 is enabled, please input your username, choose preferred ahentication(e.g. MD5) and encryption protocol(e.g. DES), and then input your passwords in [Auth Key] and [Private Key] fields respectively.
- 4. Click the [save] button. The IPMI firmware will remember your setting and depend on your decision to start or stop the

1. Check the box to enable SNMP. Once SNMP is enabled, enter information in the fields below.

2. SNMP Version: Select SNMPV2 or SNMPV3

3. SNMPV2: If this options is selected, enter a password for ROCommunity and RWCommunity.

4. SNMPV3: If this option is selected, enter information in the fields below:

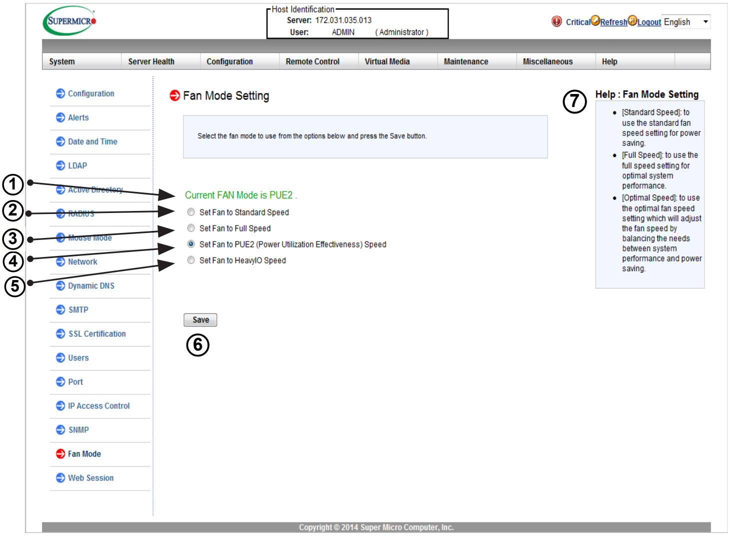
- Enter a username
- Select the Authentication Protocol
- Select the Private Protocol
- Enter the Authentication Key
- Enter the Private key

5. Click on <Save> to save the settings.

6. Click on the <Help> tab to display the Help menu. The menu includes an explanation of all the options on this page.

2.7.15 Fan Mode

This page allows you to configure fan mode settings. When you click on *Fan Mode* in the Options window, the following screen will display.



Fan Mode Setting

Select the fan mode to use from the options below and press the Save button.

Current FAN Mode is PUE2 .

○ Set Fan to Standard Speed
○ Set Fan to Full Speed
● Set Fan to PUE2 (Power Utilization Effectiveness) Speed
○ Set Fan to HeavyIO Speed

Help : Fan Mode Setting

- [Standard Speed]: to use the standard fan speed setting for power saving.
- [Full Speed]: to use the full speed setting for optimal system performance.
- [Optimal Speed]: to use the optimal fan speed setting which will adjust the fan speed by balancing the needs between system performance and power saving.

1. This item displays the current fan mode setting.

2. Select this option for the standard fan speed setting.

3. Select this option for the full speed setting.

4. Select this option for the PUE2 (Power Utilization Effectiveness) speed.

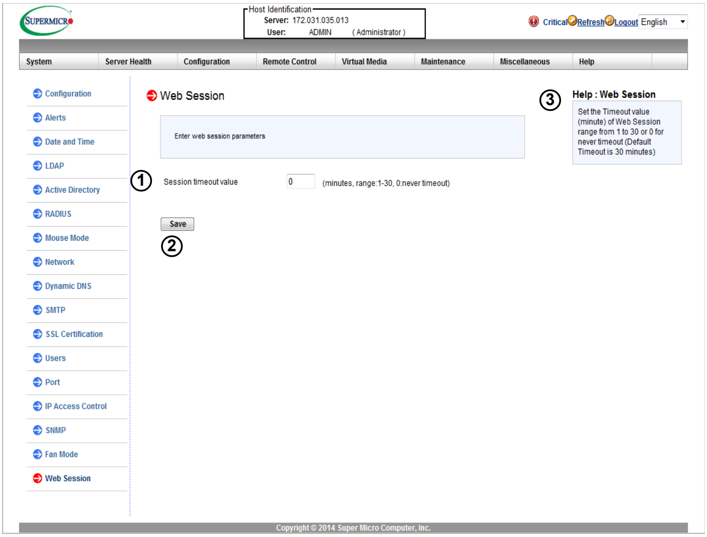
5. Select this option for the Heavy IO speed.

6. Click on <Save> to save the settings.

7. Click on the <Help> tab to display the Help menu. The menu includes an explanation of the fan modes.

2.7.16 Web Session

This page allows you to configure web session parameters. When you click on *Web Session* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Web Session

Enter web session parameters

Session timeout value 0 (minutes, range:1-30, 0:never timeout)

Help : Web Session

Set the Timeout value (minute) of Web Session range from 1 to 30 or 0 for never timeout (Default Timeout is 30 minutes)

Copyright © 2014 Super Micro Computer, Inc.

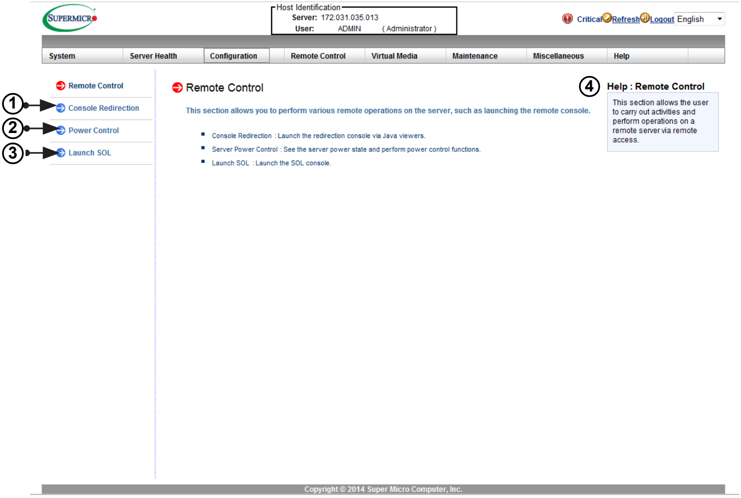
1. Enter the session timeout value. Values are in minutes and range from 1-30.

2. Click on <Save> to save the settings.

3. Click on the <Help> tab to display the Help menu. The menu defines the web session parameters.

2.8 Remote Control

This section allows the user to carry out activities and perform operations on a remote server via remote access. When you click on *Remote Control* in the Options window, the following screen will display.



Remote Control

This section allows you to perform various remote operations on the server, such as launching the remote console.

- Console Redirection : Launch the redirection console via Java viewers.
- Server Power Control : See the server power state and perform power control functions.
- Launch SOL : Launch the SOL console.

Help : Remote Control

This section allows the user to carry out activities and perform operations on a remote server via remote access.

1. Click on *Console Redirection* to launch Console Redirection and configure the settings of the remote server. For more details on Console Redirection, please refer to "Launching Console Redirection" on the next page.

2. Click on *Power Control* to display and configure the power settings of the remote console, including the following settings.

- Reset Server
- Power Off Server-Immediate
- Power Off Server-Orderly Shutdown
- Power On Server
- Power Cycle Server

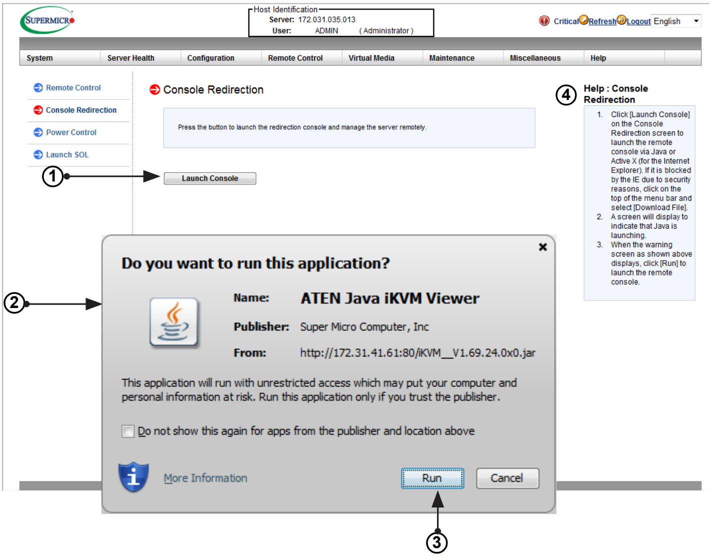
Once you have clicked the desired power setting, click on "Perform Action" to change the power setting of the server.

3. Click on *Launch SOL* to launch SOL (Serial Over LAN) console and manage the remote server.

4. Click on <Help> to display the Help menu for the *Remote Control* page.

2.8.1 Launch Console Redirection

This feature allows you to launch Console Redirection via IKVM (keyboard, video/monitor, mouse) support. When you click on *Console Redirection* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Console Redirection

Press the button to launch the redirection console and manage the server remotely.

Help : Console Redirection

1. Click [Launch Console] on the Console Redirection screen to launch the remote console via Java or Active X (for the Internet Explorer). If it is blocked by the IE due to security reasons, click on the top of the menu bar and select [Download File].
2. A screen will display to indicate that Java is launching.
3. When the warning screen as shown above displays, click [Run] to launch the remote console.

Do you want to run this application?

Name: ATEN Java iKVM Viewer

Publisher: Super Micro Computer, Inc

From: http://172.31.41.61:80/iKVM__V1.69.24.0x0.jar

This application will run with unrestricted access which may put your computer and personal information at risk. Run this application only if you trust the publisher.

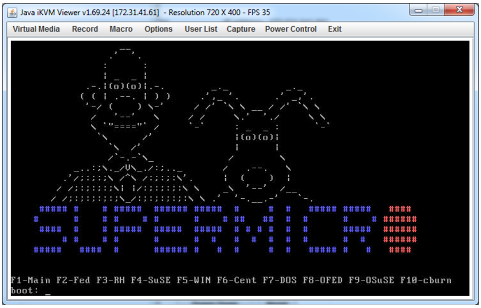
□ Do not show this again for apps from the publisher and location above

1. Click <Launch Console> on the Console Redirection screen to launch the remote console via Java (for the Internet Explorer). You need to have Java installed in your system to launch the console.

2. A dialog box will display to indicate that Java is launching

3. Click on <Run> to launch the remote console. The main screen like the one below will appear. Note that your screen may not look exactly like the one below.

4. Click on <Help> to display the Help menu for the *Console Redirection* page.

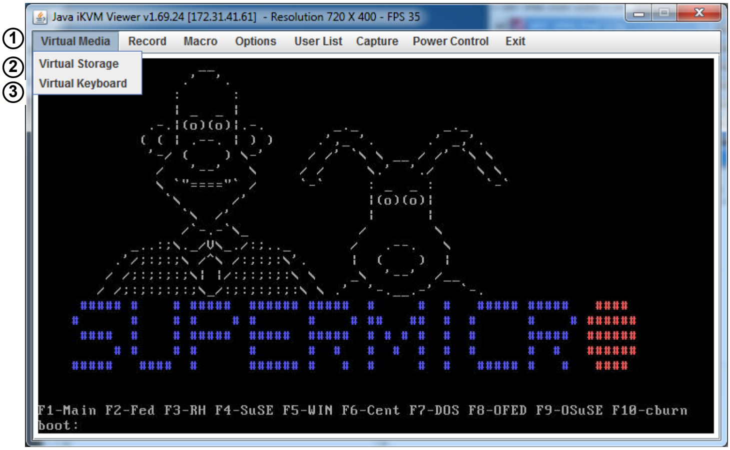


Java iKVM Viewer v1.69.24 [172.31.41.61] - Resolution 720 X 400 - FPS 35

```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot: _
```

2.8.1a Console Redirection - Virtual Device

This feature allows you to configure virtual device settings for your console redirection.



```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot:
```

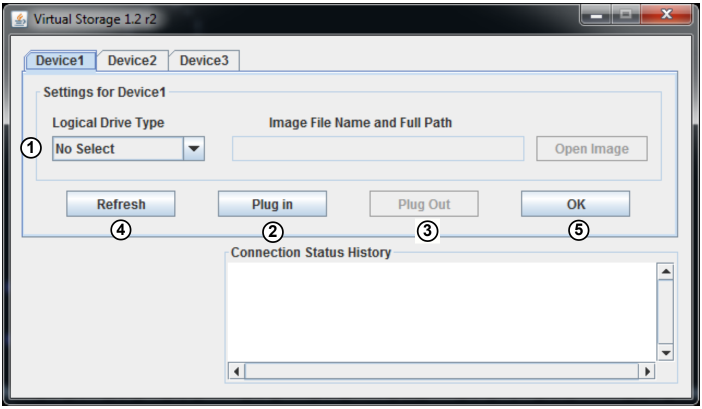
1. Click on *Virtual Media* to configure virtual device settings of a server at a remote site via Console Redirection.

2. Click on *Virtual Settings* to select a device you want to connect to the remote server as a virtual device.

3. Click on *Virtual Keyboard* to launch the virtual keyboard.

Virtual Storage

When you click on *Virtual Storage* as described on the previous page, the following screen will appear. You are able to use up to three devices for virtual storage..



Virtual Storage 1.2 r2

Settings for Device1

Logical Drive Type: No Select

1. Select the logical drive type from the dropdown menu. The options are as follows:

- *Upload IMA*: Select to browse for and upload an IMA file.

- *ISO File*: Select to browse for and upload an ISO file.

- *Web ISO*: Select to mount a Web ISO. The file will be mounted from the web interface. To specify the file location, set the image path on the CD-ROM Image page in the IPMI.

- *C: SATA HD*: Select to mount from the local computer you are using to ac- cess the IPMI.

2. Click on <Plug in> to mount the selected drive.

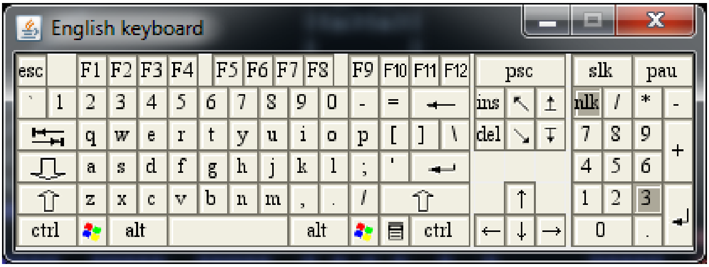
3. Click on <Plug out> to unmount the selected drive.

4. Click on <Refresh> to refresh the connection status.

5. Click on <OK> to save the changes and exit the window.

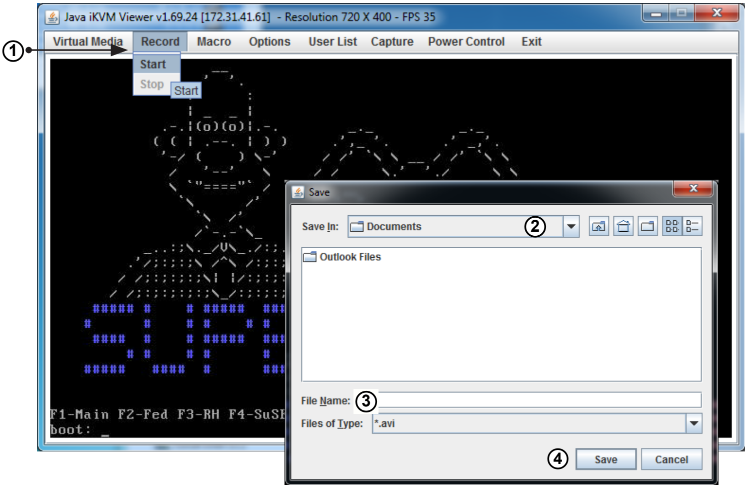
Virtual Keyboard

When you click on *Virtual Keyboard* in the Virtual Media menu, the virtual keyboard will appear.


English keyboard
esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 psc slk pau
` 1 2 3 4 5 6 7 8 9 0 - = ins ↖ ↥ nlk / * -
q w e r t y u i o p [ ] \ del ↘ ↧ 7 8 9 +
a s d f g h j k l ; ' 4 5 6
z x c v b n m , . / ↑ 1 2 3
ctrl alt alt ctrl ← ↓ → 0 .

2.8.1b Console Redirection - Record

This feature allows you to record media displays for your console redirection.



1. Click on *Start* from the Record menu to start recording. The window shown above will appear.

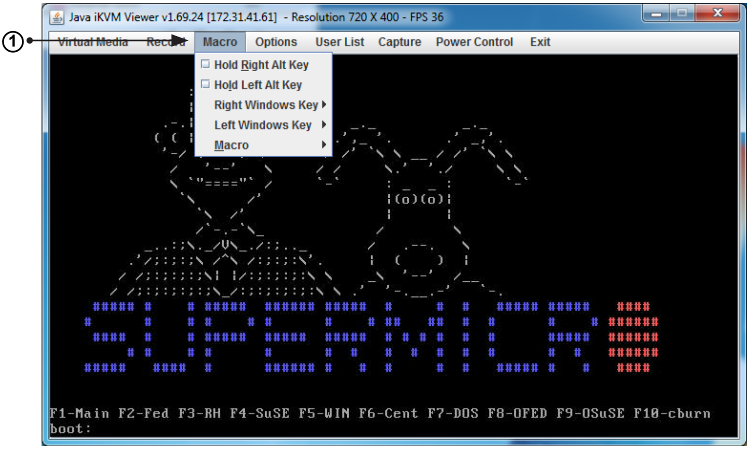
2. Then select the location to save the recording.

3. Enter a file name

4. Click on <Save> to save the settings and begin recording or click on <Cancel> to exit the window without recording. The recording process will continue until you click on *Stop* under the Record menu.

2.8.1c Console Redirection - Macro

This feature allows you to configure Macro settings for your console redirection.



```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot:
```

1. Click on *Macro* to configure the Macro settings for your remote server. The fea- tures include the following:

- *Hold Right Alt Key:* This item performs the same function as holding down the right <Alt> key.

- *Hold Left Alt Key*: This item performs the same function as holding down the left <Alt> key.

- *Right Windows Key*: This item performs the same function as you pressing the right <Windows> key. Select *Hold Down* or *Press and Release*.

- *Left Windows Key:* This item performs the same function as pressing the left <Windows> key. Select *Hold Down* or *Press and Release*.

- *Macro*: Click this item to activate a pull-down submenu. The *Macro* submenu includes the following items:

    - Ctrl+Alt+Del

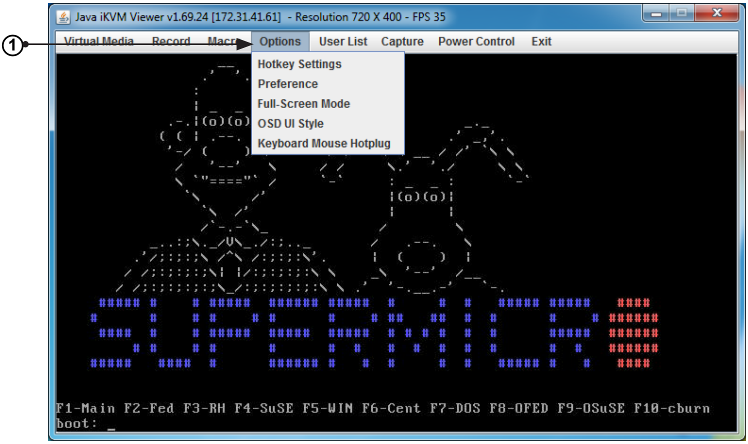
    - Alt+Tab

    - Alt+Esc

- Ctrl+Esc
- Alt+Space
- Alt+Enter
- Alt+Hyphen
- Alt+F4
- Alt+PrntScrn
- PrntScrn
- F1
- Alt+F1
- Pause

2.8.1d Console Redirection - Options

This feature allows you to configure Options settings for your console redirection.

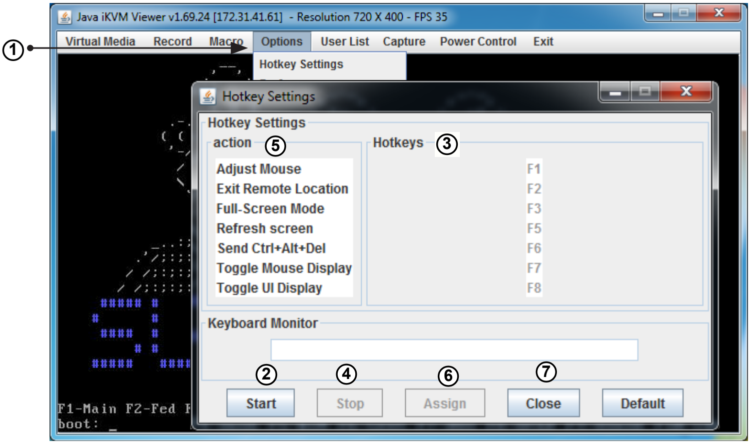

1
Java iKVM Viewer v1.69.24 [172.31.41.61] - Resolution 720 X 400 - FPS 35
Virtual Media
Record
Macro
Options
User List
Capture
Power Control
Exit
Hotkey Settings
Preference
Full-Screen Mode
OSD UI Style
Keyboard Mouse Hotplug
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot: _

1. Click on *Options* to activate the pull-down emnu to configure options settings. The options menu allows you to configure the following settines:

- HotKey
- Preference
- Full-Screen Mode
- OSD UI Style
- Keyboard Mouse Hotplug

Options - Hotkey Settings

This feature allows you to configure the hotkey settings for your console redirection.



1. To assign a hotkey for an action, click on *Hotkey Settings* under the Options menu. A Hotkey Settings window will appear.

2. Click on <Start>

3. Enter the hotkey of your choice. It can be a single word or a combination.

4. Click on <Stop>

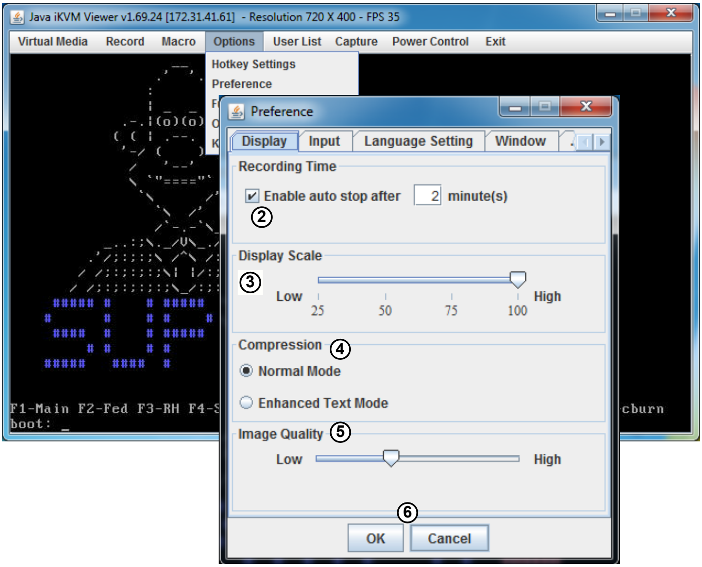
5. Select an item fron the action list.

6. Click on <Assign>

7. Click on <Close> to exit the window.

Options - Preference (Display)

This feature allows you to configure video recording settings for your remote console.



☑ Enable auto stop after 2 minute(s)

● Normal Mode

○ Enhanced Text Mode

1. Click on *Preference* under the Options menu. The *Preference* settings box will display. The first tab is *Display*.

2. The *Recording Time* section refers to video recording. If you want to automatically stop recoring after a preset time, check the box, then input the number of minutes that should pass before the recording should automatically stop.

3. Use the slider on the Display Scale to set the appropriate scale setting for your display from Low (25) to High (100).

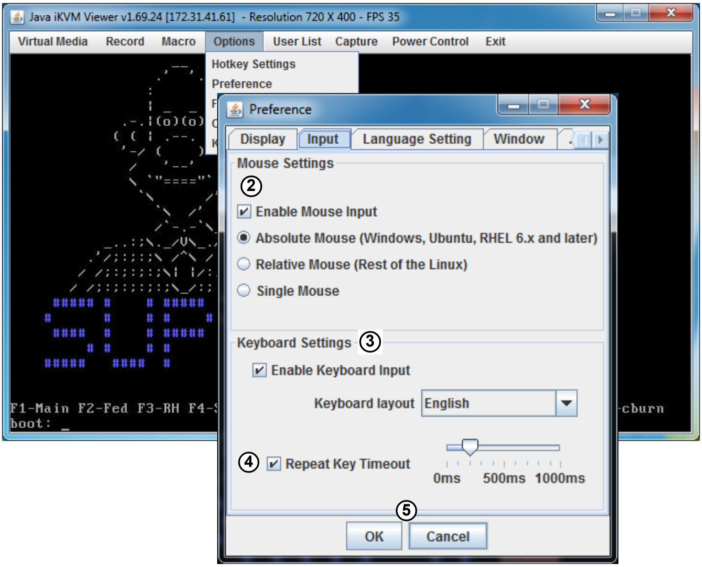
4. You can change the compression options under the *Compression* section.

5. You can adjust the image quality settings in accordance with varying degrees of network traffic. To ensure the best image quality, select *High* for heavier network traffic connections; select *Low* for lighter network traffic.

6. Click on <OK> to save the new setings or click on <Cancel> to exit the Preference win- dow without saving.

Options - Preference (Input)

This feature allows you to configure input settings for your remote console.



☑ Enable Mouse Input

● Absolute Mouse (Windows, Ubuntu, RHEL 6.x and later)

○ Relative Mouse (Rest of the Linux)

○ Single Mouse

Keyboard Settings

☑ Enable Keyboard Input

Keyboard layout: English

☑ Repeat Key Timeout (0ms, 500ms, 1000ms)

```
F1-Main F2-Fed F3-RH F4-S
boot: _
```

1. Click on *Preference* under the Options menu. The *Preference* settings box will display. The second tab is *Input*.

2. Check the *Enable Mouse Input* box to enable mouse support so that you can use the mouse as an input device. Once mouse support is enabled, you need to set a proper mouse mode for your remote console. Check the corresponding radio button from the list below.

   - Select Absolute Mode if you have the Windows OS
   - Select Relative Mouse for the Linux OS.
   - Single Mouse

3. Check the *Enable Keyboard Input* box to enable keyboard support so that you can use a soft keyboard as an input device. From the *Keyboard layout* pull-down menu, select the right language setting for your soft keyboard. The language options are the following:

   - English
   - Chinese (traditional)

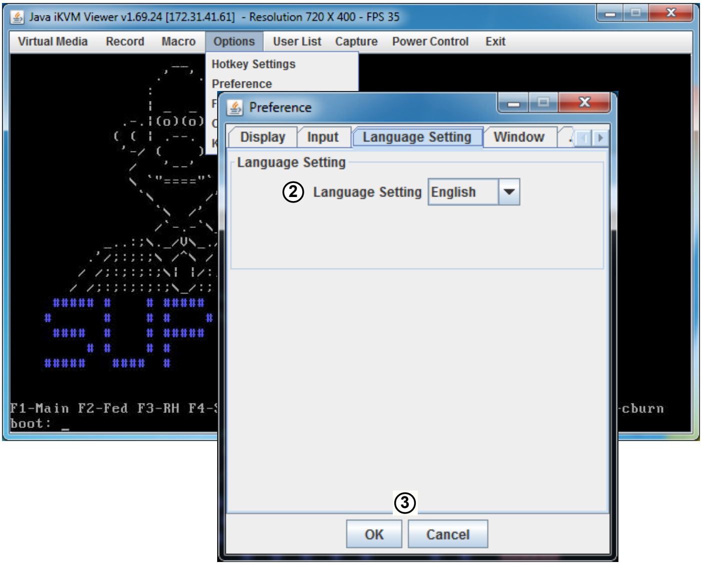
- Japanese
- Germany
- French
- Spanish
- Korean
- Italian
- United Kingdom
- Swiss

4. To timeout repeated keystrokes, check the *Repeat Key Timeout* box, and use the slider on the scale to select the appropriate timeout settings for repeat keystrokes from 0ms to 1000ms (microseconds).

5. Click on <Save> to save the new settings or click on <Cancel> to exit the *Preference* window without saving.

Options - Preference (Language Setting)

This feature allows you to configure language settings for your remote console.



1. Click on *Preference* under the Options menu. The *Preference* settings box will display. The third tab is *Language Setting*.

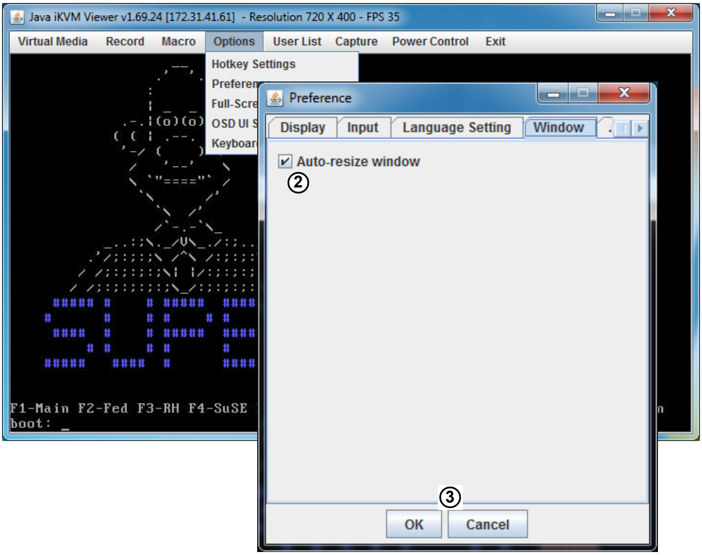
2. From the pull-down menu, select the language you want to use for your remote console. The language options are the following:

   - English
   - Japanese
   - German
   - French
   - Spanish
   - Korean
   - Italian

3. Click on <OK> to save the changes and exit the window or click on <Cancel> to exit without saving.

Options - Preference (Window)

This feature allows you to configure language settings for your remote console.



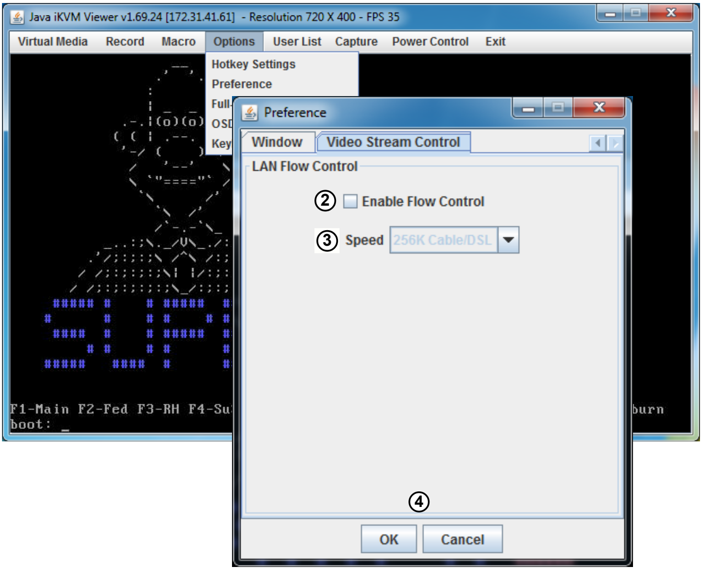
1. Click on *Preference* under the Options menu. The *Preference* settings box will display. The fourth tab is *Window*.

2. Check *Auto-resize window* to reset the size of your display window.

3. Click on <OK> to save the change and exit the window or click on <Cancel> to exit without saving.

Options - Preference (Video Stream Control)

This feature allows you to configure window settings for your remote console.



1. Click on *Preference* under the Options menu. The *Preference* settings box will display. The last tab is *Video Stream Control*.

2. Check the *Enable Flow Control* box to enable support for video stream control.

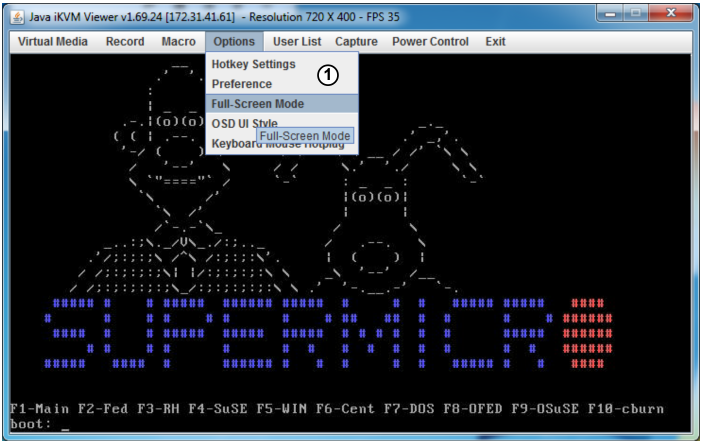
3. Select the speed from the pull-down menu. The options are as follows:

    - 256K Cable/DSL
    - T1
    - T2

4. Click on <OK> to save the change and exit the window or click on <Cancel> to exit without saving.

Options - Full Screen Mode

This feature allows you to configure window settings for your remote console.



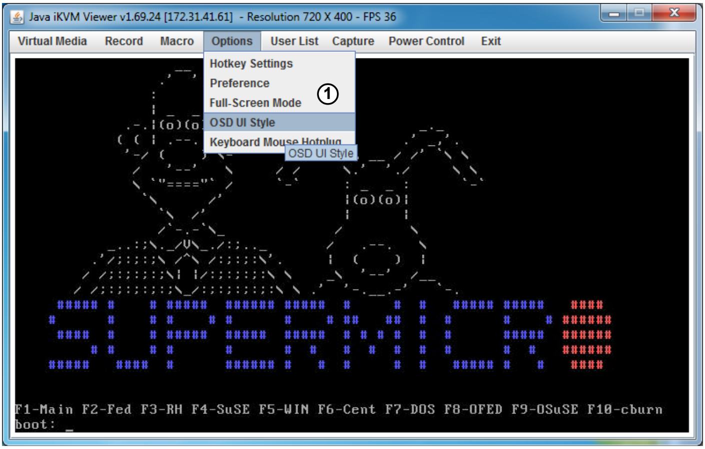
```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot: _
```

1. Click on *Full Screen Mode* under the Options menu.

2. To leave the full-screen display, click on *Leave Full-Screen Mode* under the Op- tions menu.

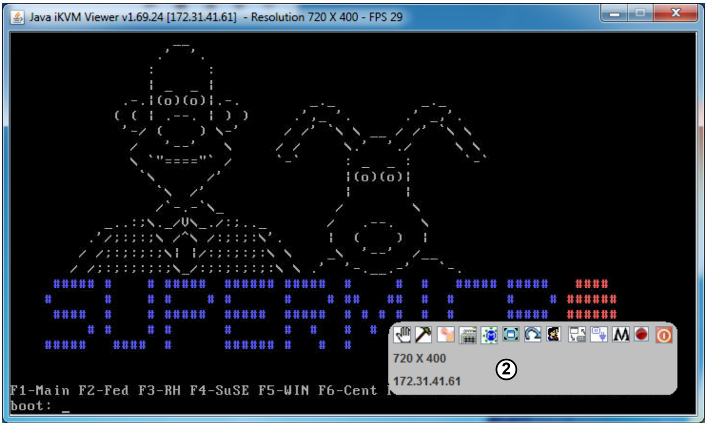
Options - OSD UI Style

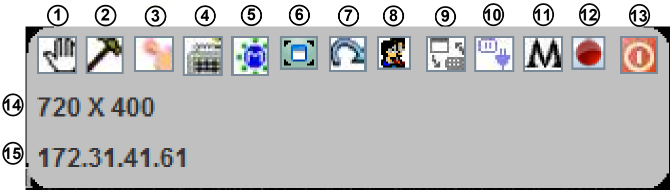
This feature allows you to configure OSD (On-Screen Display) UI (User Interface) style settings for your remote console.



1. Click on *OSD UI Style* under the Options menu.

2. A gray box with shortcut icons will appear. They are shortcuts to the main features provided by the firmware for your console redirection. Click on an icon to activate its function. See the next page for the list of icons and their functions.


Java iKVM Viewer v1.69.24 [172.31.41.61] - Resolution 720 X 400 - FPS 29
720 X 400
172.31.41.61
2
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent
boot: _



1. **Move OSD:** Click and drag this icon to move the OSD UI pop-up screen to a new location on the display

2. **Hotkey Settings:** Click this icon to access the Hotkeys submenu and configure the settings.

3. **Virtual Storage:** Click this item to access the Virtual Media submenu andconfigure the settings.

4. **Virtual Keyboard:** Click this item to access the Virtual Keyboard submenu and use your virtual (soft) keyboard.

5. **Preference:** Click this item to access the Preferences window.

6. **Full-Screen Mode:** Click this item to change the size of your display window to the full screen mode.

7. **Exit:** Click this item to exit from the remote console.

8. **Show User List:** Click this item to display the user list.

9. **Menubar UI Style:** Click this item to change the toolbar display format.

10. **Keyboard Mouse Hotplug:** Click this item to hotplug keyboard and mouse.

11. **Macro:** Click this item to enable Macro support and use Macro features.

12. **Record:** Click this item to access the Video Recording submenu and to use video recording.

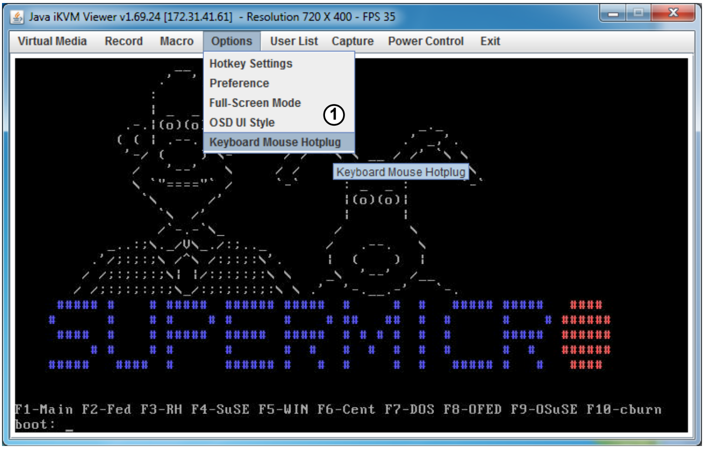
13. **Set power on-off:** Click this item to turn the system off.

14. **Resolution:** This item displays the remote console resolution in pixels.

15. **IP Address:** This item displays the IP address of the IPMI.

Options - Keyboard Mouse Hotplug

This feature allows you to enable keyboard/mouse hotplug support for your remote console.

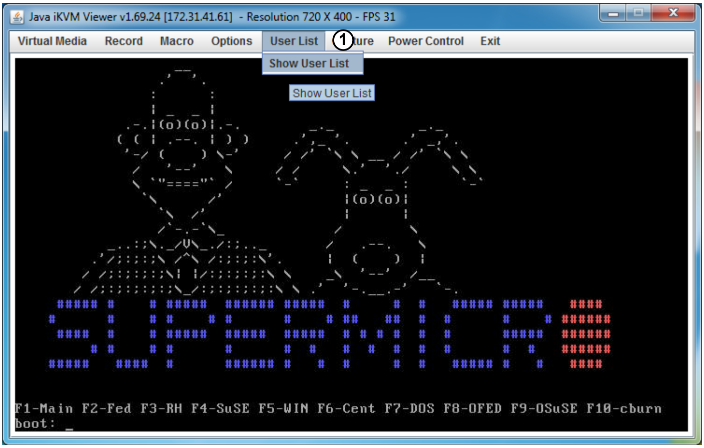


```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot: _
```

1. Click on *Keyboard Mouse Hotplug* under the *Options* menu.

2.8.1e Console Redirection - User List

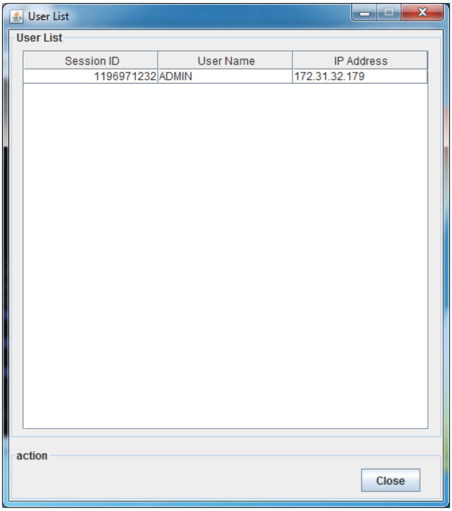
This feature allows you to access the user list.



```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot: _
```

1. Click on *Show User List* under the Options to show the user list. A pop-up window will appear and show the following information:

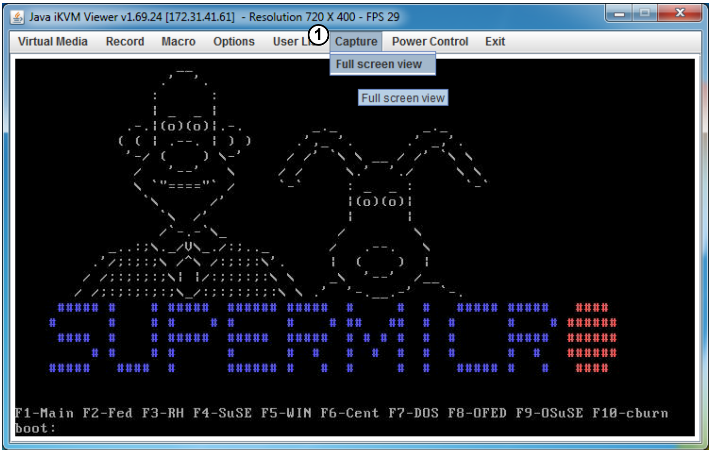
- *Session ID:* This item displays the current session ID number.
- *User Name:* This item displays the name of each user.
- *IP Address:* This item displays the IP address of the client server.



Session ID	User Name	IP Address
1196971232	ADMIN	172.31.32.179

2.8.1f Console Redirection - Capture

This feature allows you to capture the screen displayed on your remote console.

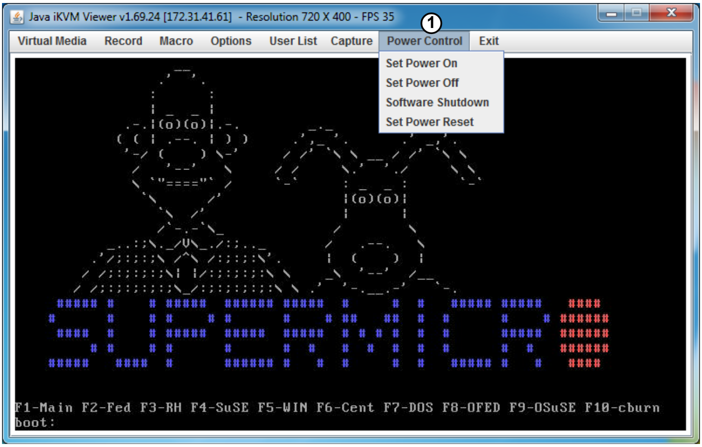


```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot:
```

1. Click on *Full screen view* under the *Capture* menu.

2.8.1g Console Redirection - Power Control

Under the Power Control menu, you can manage the power state of the system.



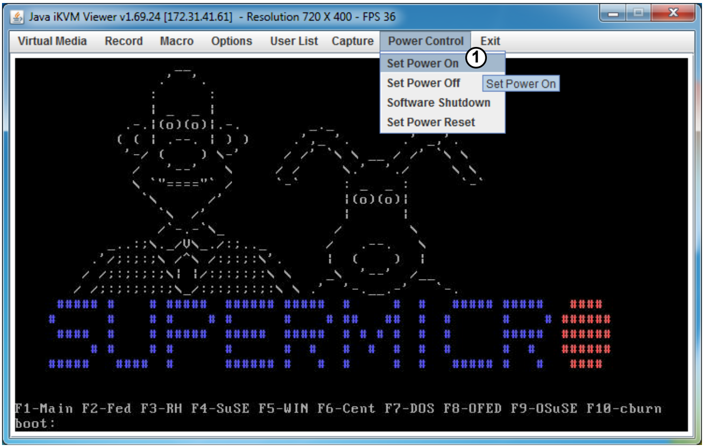
```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot:
```

1. The power control features are the following:

- *Set Power On:* Allows you to turn the system on if it is off.
- *Set Power Off:* Allows you to turn the system off.
- *Software Shutdown:* Allows you to perform a graceful shutdown of the system.
- *Set Power Reset*: Allows you to reset the system.

Power Control - Set Power On

The *Set Power On* option allows you to power on the system if the system is off.

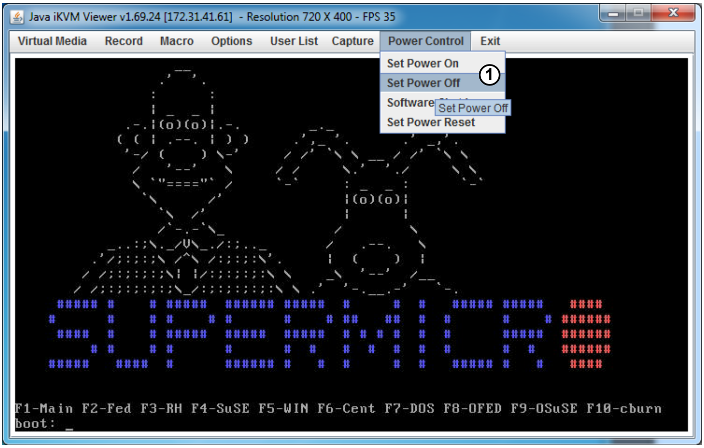


```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot:
```

1. Click the *Set Power On* option under the *Power Control* menu.

Power Control - Set Power Off

The *Set Power On* option allows you to power off the system if the system is on.

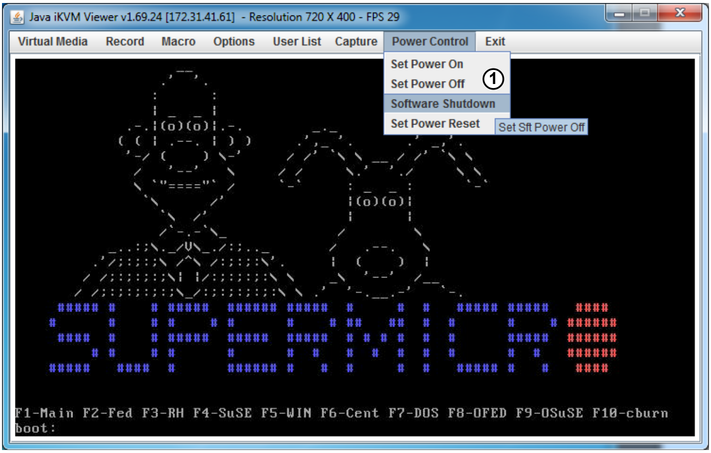


```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot: _
```

1. Click the *Set Power Off* option under the *Power Control* menu.

Power Control - Software Shutdown

The *Software Shutdown* option allows you to perform a graceful shutdown of the operating system.

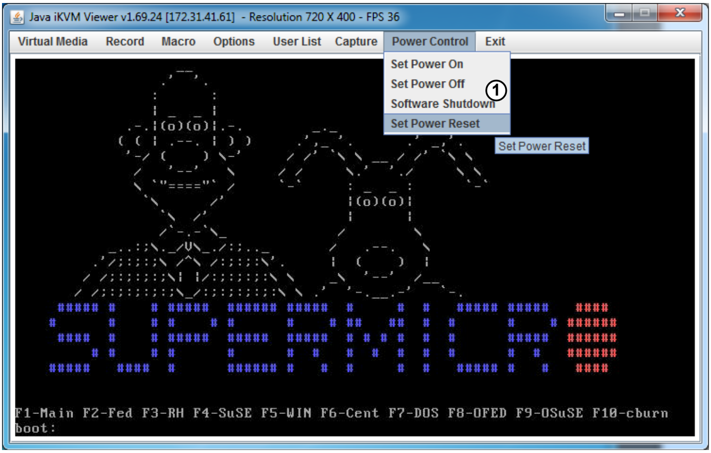


```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot:
```

1. Click the *Software Shutdown* option under the *Power Control* menu.

Power Control - Set Power Reset

The *Set Power On* option allows you to reset the system.

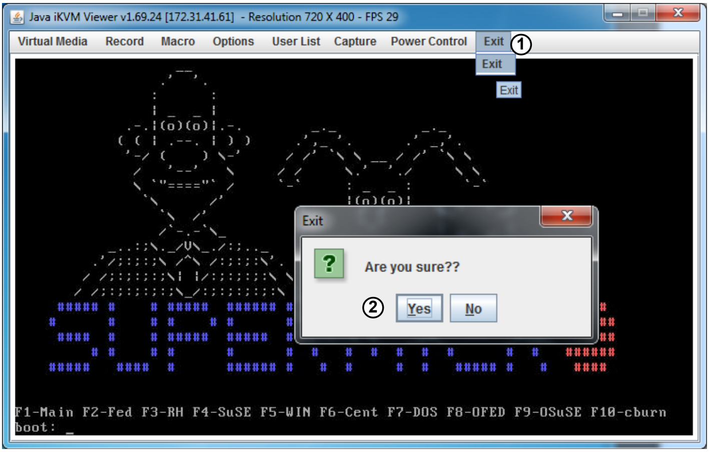


```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot:
```

1. Click the *Set Power Reset* option under the *Power Control* menu*.*

2.8.1h Console Redirection - Exit

Under the Power Control menu, you can manage the power state of the system.



Are you sure??

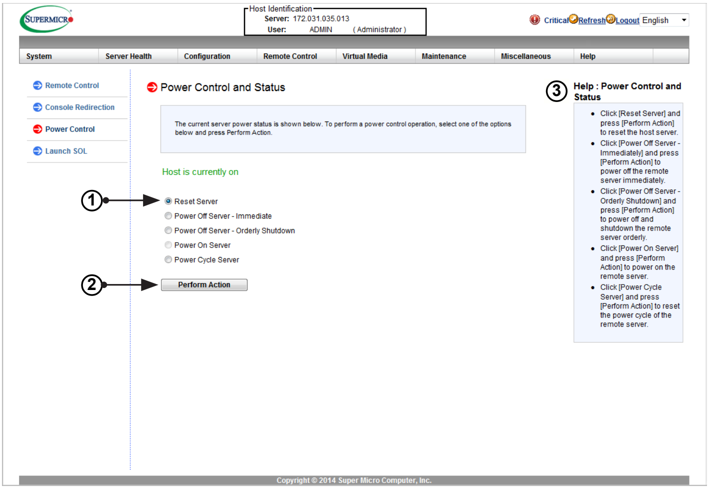
```
F1-Main F2-Fed F3-RH F4-SuSE F5-WIN F6-Cent F7-DOS F8-OFED F9-OSuSE F10-cburn
boot: _
```

1. To exit the Console Redirection, click on *Exit* under the *Exit* menu.

2. Click on <Yes> in the Exit dialog box to exit.

2.8.2 Power Control

This feature allows the user to check the power state and manage the system. When you click on *Power Control* in the Options window, the following screen will display.



Power Control and Status

The current server power status is shown below. To perform a power control operation, select one of the options below and press Perform Action.

Host is currently on

- ◉ Reset Server
- ○ Power Off Server - Immediate
- ○ Power Off Server - Orderly Shutdown
- ○ Power On Server
- ○ Power Cycle Server

Help : Power Control and Status

- Click [Reset Server] and press [Perform Action] to reset the host server.
- Click [Power Off Server - Immediately] and press [Perform Action] to power off the remote server immediately.
- Click [Power Off Server - Orderly Shutdown] and press [Perform Action] to power off and shutdown the remote server orderly.
- Click [Power On Server] and press [Perform Action] to power on the remote server.
- Click [Power Cycle Server] and press [Perform Action] to reset the power cycle of the remote server.

1. To enter the screen shown above, click on the "Power Control" item in the Remote Control sidebar. The following options are listed:

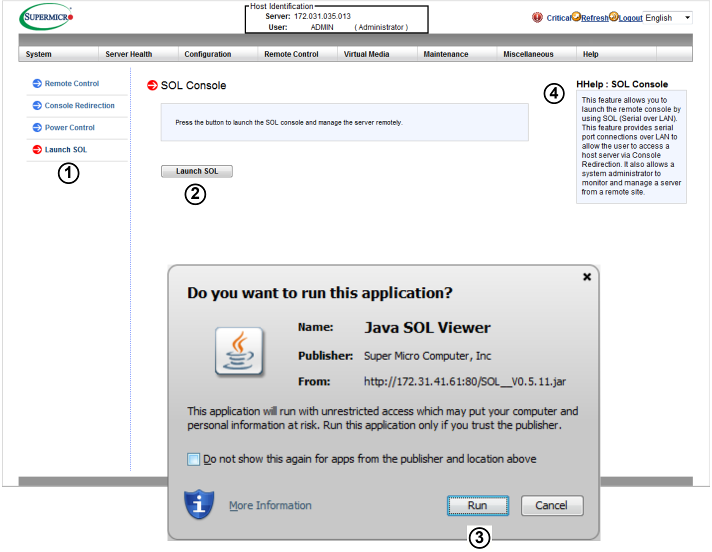
   - Click on *Reset Server* to reset the host server.
   - Click on *Power Off Server - Immediate* to power off the remote server immediately.
   - Click on *Power Off Server - Orderly Shutdown* to power off and shutdown the remote server in an orderly fashion.
   - Click on *Power On Server* to power on the remote server.
   - Click on *Power Cycle Server* to power cycle the remote server.

2. Click on <Perform Action> after choosing an option to commence

3. Click on the <Help> tab to display the Help menu. The menu includes an explanation of all the power modes.

2.8.2 Launch SOL

This feature allows you to launch the remote console by using SOL (Serial over LAN). This feature provides serial port connections over LAN to allow the user to access a host server via console redirection. It also allows a system administrator to monitor and manage a server from a remote site.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

SOL Console

Press the button to launch the SOL console and manage the server remotely.

HHelp : SOL Console

This feature allows you to launch the remote console by using SOL (Serial over LAN). This feature provides serial port connections over LAN to allow the user to access a host server via Console Redirection. It also allows a system administrator to monitor and manage a server from a remote site.

Do you want to run this application?

Name: Java SOL Viewer
Publisher: Super Micro Computer, Inc
From: http://172.31.41.61:80/SOL__V0.5.11.jar

This application will run with unrestricted access which may put your computer and personal information at risk. Run this application only if you trust the publisher.

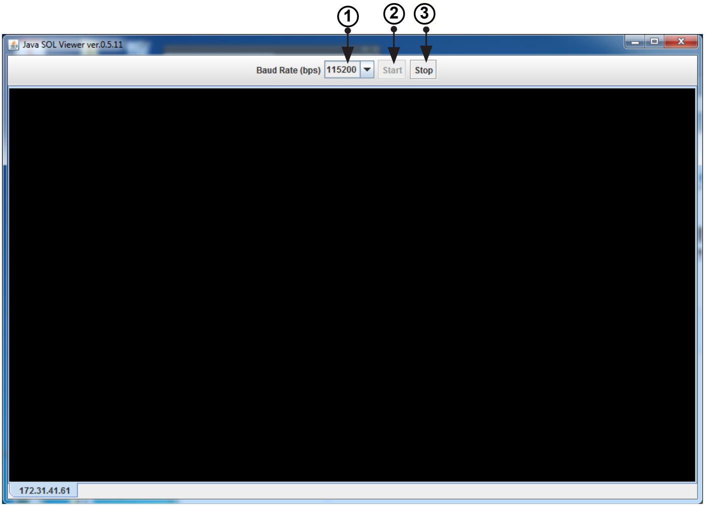
□ Do not show this again for apps from the publisher and location above

1. To enter the screen shown above, click on *Launch SOL* in the left coloumn.

2. Click on the <Launch SOL> button to launch SOL.

3. In the dialog box that asks "Do you want to run this application?', click on <Run>. The SOL Viewer screen will appear as shown on the next page.

4. Click on the <Help> tab to display the Help menu. The menu inludes an explanation of the SOL Console.



1. You can select a baud rate (bps) from the pull-down menu as your SOL transfer rate. The options are listed below. Make sure that the baud rate selected here matches the baud rate set in the BIOS.

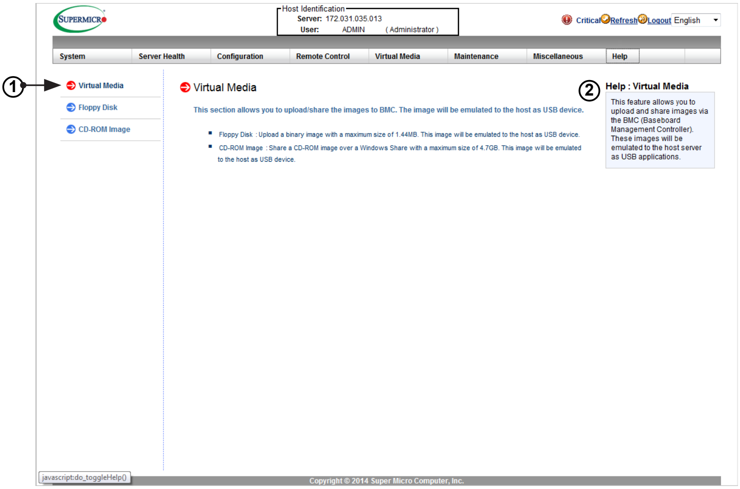
   - 9600 bps (bits per second)
   - 9200 bps
   - 38400 bps
   - 57600 bps
   - 115200 bps

2. Once you have selected the baud rate, click on <Start> to start the session. Once you have started the session, you can input SOL commands through the command-line interface.

3. Click on <Stop> to stop the SOL connection.

2.9 Virtual Media

This feature allows you to upload and share images via the BMC (Baseboard Management Controller). These images will be emulated to the host server as USB applications. When you click on *Virtual Media* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Virtual Media

This section allows you to upload/share the images to BMC. The image will be emulated to the host as USB device.

- Floppy Disk : Upload a binary image with a maximum size of 1.44MB. This image will be emulated to the host as USB device.
- CD-ROM Image : Share a CD-ROM image over a Windows Share with a maximum size of 4.7GB. This image will be emulated to the host as USB device.

Help : Virtual Media

This feature allows you to upload and share images via the BMC (Baseboard Management Controller). These images will be emulated to the host server as USB applications.

1. This section shows information related to virtual media, such as Floppy Disk and CD-ROM Image.

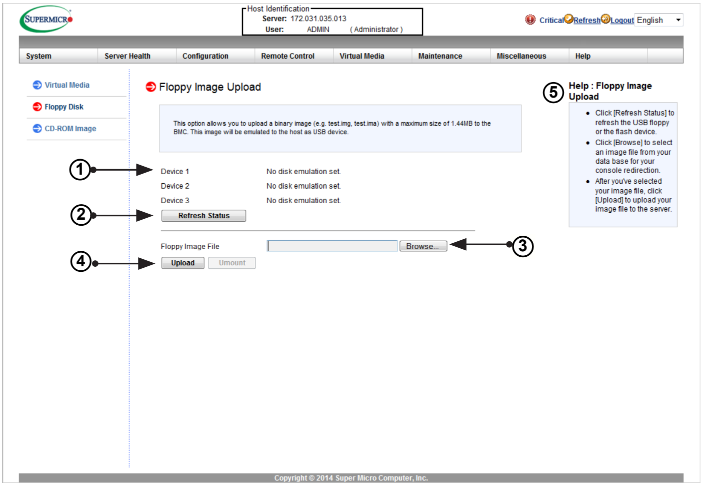
- Floppy Disk: Upload a binary image with a maximum size of 1.44MB. This image will be emulated to the host as a USB device.

- CD-ROM Image: Share a CD-ROM image over Windows Share with a maximum size of 4.7GB. This image will be emulated to the host as a USB device.

2. Click on the <Help> tab to display the Help menu for the *Virtual Media* page.

2.9.1 Floppy Disk

This feature allows you to configure Floppy Disk image files for sharing. When you click on *Floppy Disk* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Floppy Image Upload

This option allows you to upload a binary image (e.g. test.img, test.ima) with a maximum size of 1.44MB to the BMC. This image will be emulated to the host as USB device.

Device 1	No disk emulation set.
Device 2	No disk emulation set.
Device 3	No disk emulation set.

Floppy Image File

Help : Floppy Image Upload

- Click [Refresh Status] to refresh the USB floppy or the flash device.
- Click [Browse] to select an image file from your data base for your console redirection.
- After you've selected your image file, click [Upload] to upload your image file to the server.

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1. Dislpays a list of devices and their status (e.g. Device 1, Device 2, Device 3).

2. Click on <Refresh Status> to refresh the Floppy disk.

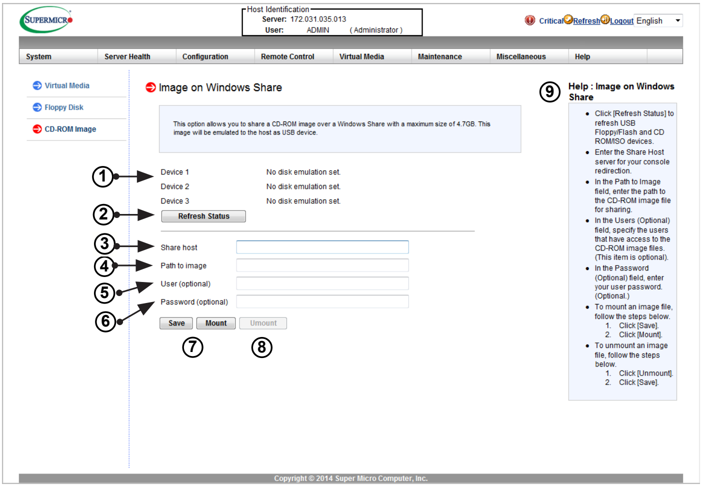
3. Click on <Browse> to select an image file from a specified location for your console redirection.

4. After you have selected your image file, click on <Upload> to upload your image file to the server.

5. Click on the <Help> tab to display the Help menu. The menu explains the function of each button on the page.

2.9.2 CD-ROM Image

This feature allows you to configure CD-ROM image files for sharing. When you click on *CD-ROM Image* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Image on Windows Share

This option allows you to share a CD-ROM image over a Windows Share with a maximum size of 4.7GB. This image will be emulated to the host as USB device.

Device 1 No disk emulation set.
Device 2 No disk emulation set.
Device 3 No disk emulation set.

Share host
Path to image
User (optional)
Password (optional)

Help : Image on Windows Share

- Click [Refresh Status] to refresh USB Floppy/Flash and CD ROM/ISO devices.
- Enter the Share Host server for your console redirection.
- In the Path to Image field, enter the path to the CD-ROM image file for sharing.
- In the Users (Optional) field, specify the users that have access to the CD-ROM image files. (This item is optional).
- In the Password (Optional) field, enter your user password. (Optional.)
- To mount an image file, follow the steps below.
  1. Click [Save].
  2. Click [Mount].
- To unmount an image file, follow the steps below.
  1. Click [Unmount].
  2. Click [Save].

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1. Dislpays a list of devices and their status (e.g. Device 1, Device 2, Device 3).

2. Click on <Refresh Status> to refresh *USB Floppy/Flash* and *CD ROM/ISO* devices.

3. Enter the *Share Host* server for your console redirection.

4. In the *Path to Image* field, enter the path to the CD-ROM image file for sharing.

5. In the *Users (Optional)* field, specify the users that have access to the CD-ROM image files. (This item is optional).

6. In the *Password (Optional)* field, enter your user password. (Optional.)

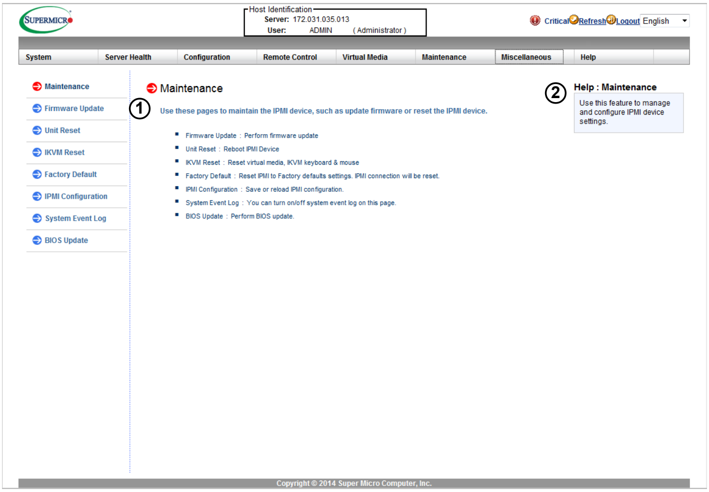
7. To *mount* an image file, click on <Save> and then <Mount>.

8. To *unmount* an image file, click on <Unmount> and then <Save>.

9. Click on the <Help> tab to display the Help menu. The menu inlcudes instructions on how to share a CD-ROM image.

2.10 Maintenance

Use this feature to manage and configure IPMI device settings. When you click on *Maintenance* in the Options window, the following screen will display.



Server: 172.031.035.013
User: ADMIN (Administrator)

Maintenance

Use these pages to maintain the IPMI device, such as update firmware or reset the IPMI device.

- Firmware Update : Perform firmware update
- Unit Reset : Reboot IPMI Device
- IKVM Reset : Reset virtual media, IKVM keyboard & mouse
- Factory Default : Reset IPMI to Factory defaults settings. IPMI connection will be reset.
- IPMI Configuration : Save or reload IPMI configuration.
- System Event Log : You can turn on/off system event log on this page.
- BIOS Update : Perform BIOS update.

Help : Maintenance

Use this feature to manage and configure IPMI device settings.

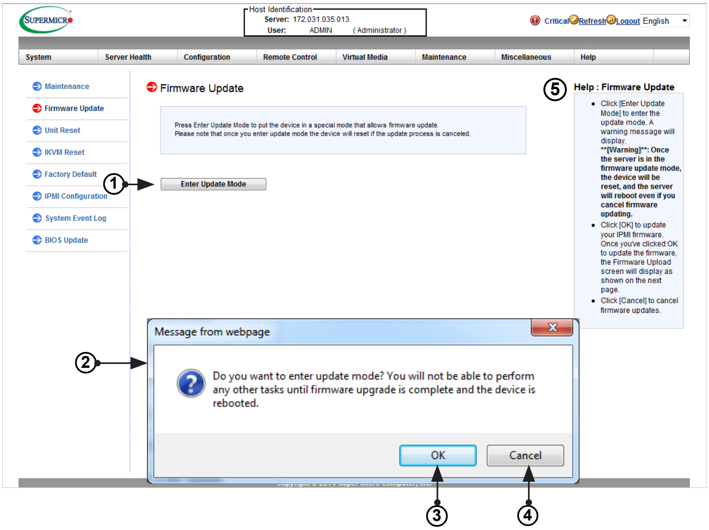
1. This screen displays the following items:

- Firmware Update: Click this item to update the remote server's BMC firmware. The Firmware Update screen is shown in the next section.
- Unit Reset: Click this item to reboot the BMC (IPMI) controller.
- IKVM Reset: Click this item to reset the IKVM setting.
- Factory Default: Click this item to restore IPMI to the factory default settings.
- IPMI Configuration: Click this item to save IPMI configuration settings to a file or to load IPMI configuration settings from a file.
- System Event Log: Click this this item to turn on or off the system event log.
- BIOS Update: Click this item to update the BIOS.

2. Click on the <Help> tab to display the Help menu for the *Maintenance* page.

2.10.1 Firmware Update

Use this feature to update the IPMI firmware. When you click on *Firmware Update* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Firmware Update

Press Enter Update Mode to put the device in a special mode that allows firmware update.
Please note that once you enter update mode the device will reset if the update process is canceled.

Help : Firmware Update

- Click [Enter Update Mode] to enter the update mode. A warning message will display. ****[Warning]**: Once the server is in the firmware update mode, the device will be reset, and the server will reboot even if you cancel firmware updating.**
- Click [OK] to update your IPMI firmware. Once you've clicked OK to update the firmware, the Firmware Upload screen will display as shown on the next page.
- Click [Cancel] to cancel firmware updates.

Message from webpage

Do you want to enter update mode? You will not be able to perform any other tasks until firmware upgrade is complete and the device is rebooted.

To update IPMI Firmware, follow the instructions below.

1. Click on <Enter Update Mode>.

2. A dialog box will a. It will ask: "Do you want to enter update mode?" Click on <OK> to proceed with the update.

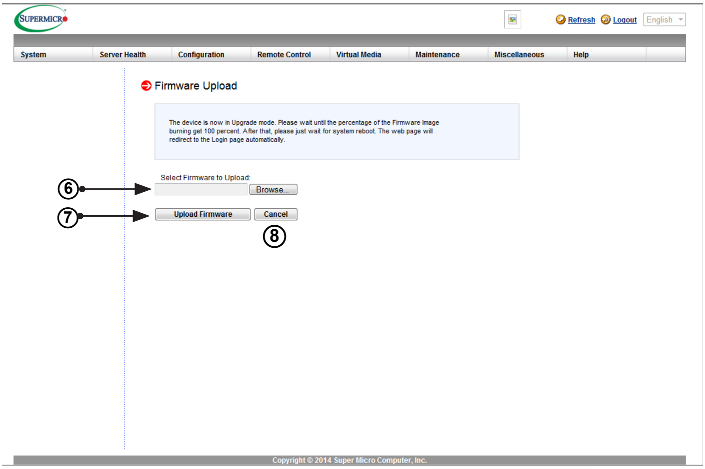
3. Click on <OK> to update your IPMI firmware. After you click <OK> to update the firmware, the *Firmware Upload* screen will display as shown on the next page.

4. Click on <Cancel> to cancel firmware updates.

5. Click on the <Help> tab to display the Help menu. The menu includes instructions on how to update the firmware.

Warning: Once the server is in the firmware update mode, the device will reset, and the server will reboot even if you cancel the firmware update.

After you click on <OK> to update the IPMI Firmware, the following Firmware Upload screen will display as shown below.



The device is now in Upgrade mode. Please wait until the percentage of the Firmware Image burning get 100 percent. After that, please just wait for system reboot. The web page will redirect to the Login page automatically.

6. Enter the name of the firmware you wish to upload. You can also select a firmware specified location by clicking on <Browse>.

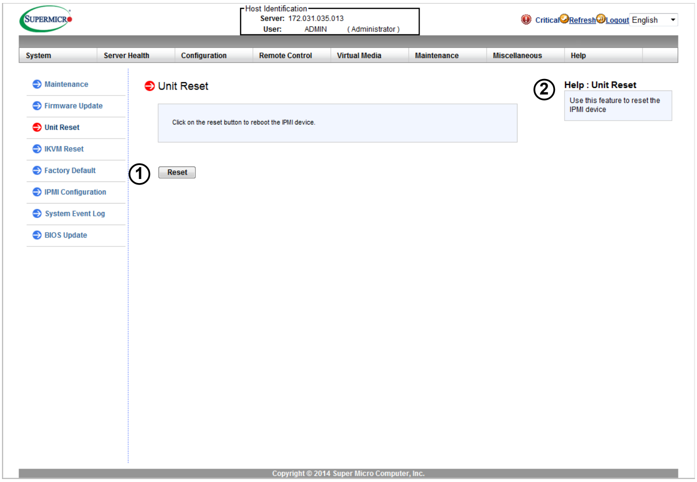
7. Click on <Upload Firmware> to upload the selected firmware to the host server.

   ⚠ **Warning:** To properly update your firmware, do not interrupt the process. The system will reboot after the firmware update is complete.

8. Click on <Cancel> to abort firmware uploading.

2.10.2 Unit Reset

Use this feature to reset the IPMI device. When you click on *Unit Reset* in the Options window, the following screen will display.



Click on the reset button to reboot the IPMI device.

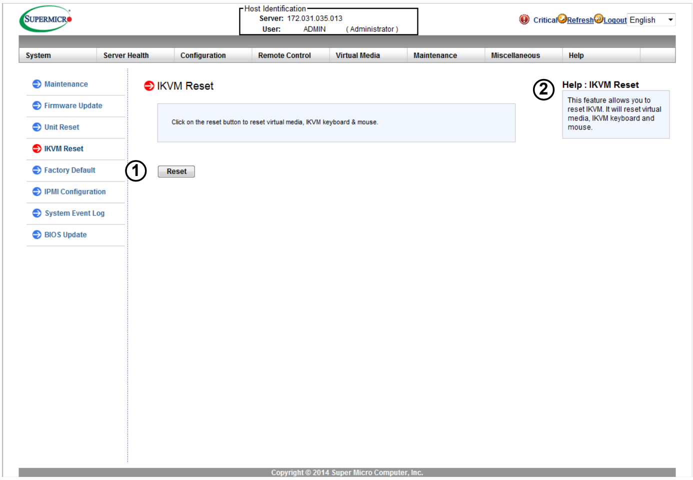
Use this feature to reset the IPMI device

1. Click on <Reset> to reset the IPMI device.

2. Click on the <Help> tab to display the Help menu for the *Unit Reset* page.

2.10.3 IKVM Reset

This feature allows you to reset IKVM. It will reset virtual media, IKVM keyboard and mouse. When you click on *IKVM Reset* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

IKVM Reset

Click on the reset button to reset virtual media, IKVM keyboard & mouse.

Help : IKVM Reset

This feature allows you to reset IKVM. It will reset virtual media, IKVM keyboard and mouse.

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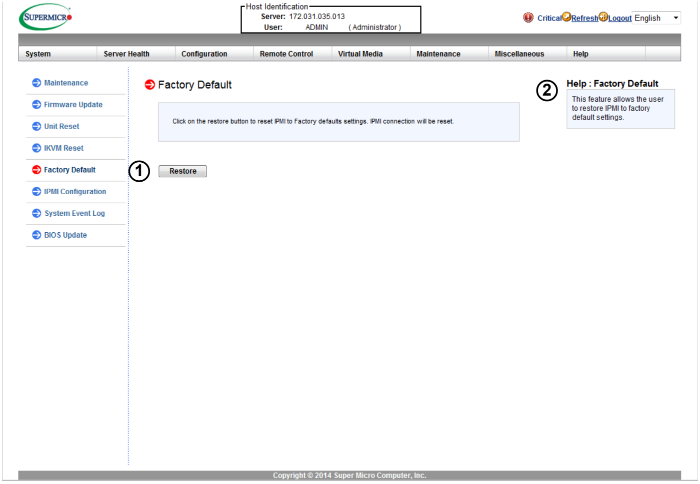
1. Click on <Reset> to reset virtual media, IKVM keyboard and mouse.

2. Click on the <Help> tab to display the Help menu for the *IKVM Reset* page.

2.10.4 Factory Default

This feature allows the user to restore IPMI to factory default settings. When you click on *Factory Default* in the Options window, the following screen will display.



Click on the restore button to reset IPMI to Factory defaults settings. IPMI connection will be reset.

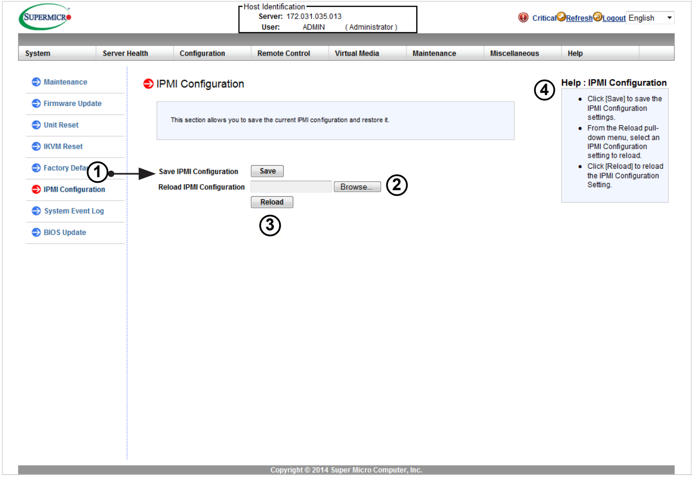
This feature allows the user to restore IPMI to factory default settings.

1. Click on <Restore> to reset the IPMI to factory default settings. The IPMI connection will reset.

2. Click on the <Help> tab to display the Help menu for the *Factory Default* page.

2.10.5 IPMI Configuration

This feature allows the user to save IPMI configuration settings and restore it. When you click on *IPMI Configuration* in the Options window, the following screen will display.



This section allows you to save the current IPMI configuration and restore it.

- Click [Save] to save the IPMI Configuration settings.
- From the Reload pull-down menu, select an IPMI Configuration setting to reload.
- Click [Reload] to reload the IPMI Configuration Setting.

1. Click on <Save> to save the current IPMI configuration.

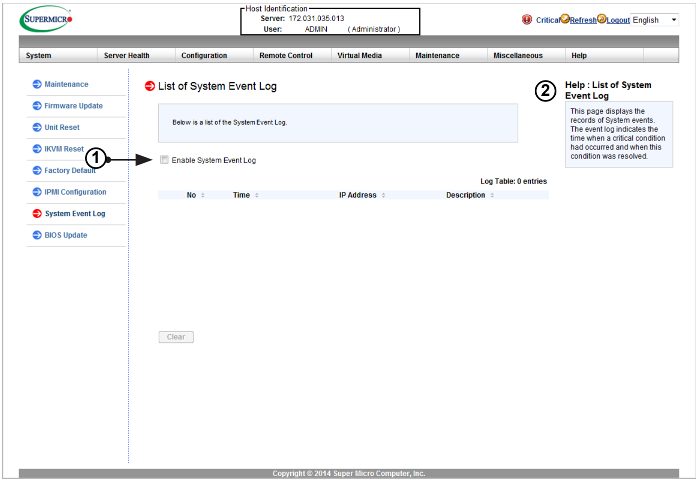
2. Click on <Browse> to select a configuration from specified location to reload.

3. Click on <Reload> to save the IPMI Configuration settings.

4. Click on the <Help> tab to display the Help menu. The menu includes instructions on how to configure the IPMI configuration.

2.10.6 System Event Log

This feature displays a list of the system event log. When you click on *System Event Log* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

List of System Event Log

Below is a list of the System Event Log.

□ Enable System Event Log

Log Table: 0 entries

No	Time	IP Address	Description

Help : List of System Event Log

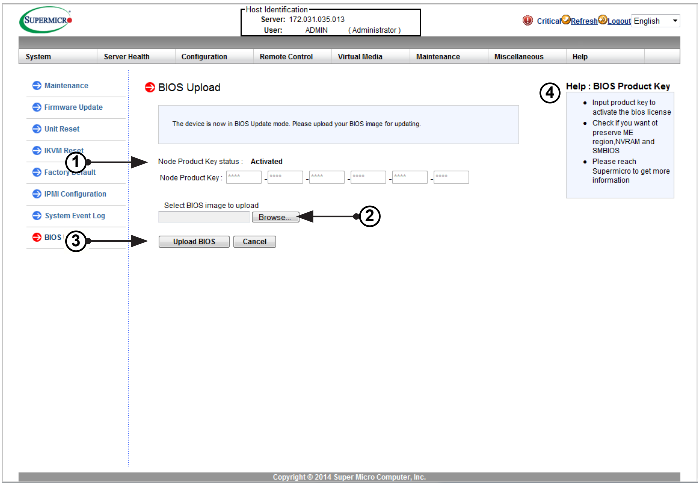
This page displays the records of System events. The event log indicates the time when a critical condition had occurred and when this condition was resolved.

1. Check the <Enable System Event Log> box to display the records of system events.

2. Click on the <Help> tab to display the Help menu for the *System Event Log* page.

2.10.7 BIOS Update

This feature allows the user to update the BIOS. When you click on *BIOS Update* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

BIOS Upload

The device is now in BIOS Update mode. Please upload your BIOS image for updating.

Node Product Key status : Activated

Node Product Key : **** - **** - **** - **** - **** - ****

Select BIOS image to upload

Help : BIOS Product Key

- Input product key to activate the bios license
- Check if you want ot preserve ME region,NVRAM and SMBIOS
- Please reach Supermicro to get more information

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1. Displays information on the Node Product Key status.

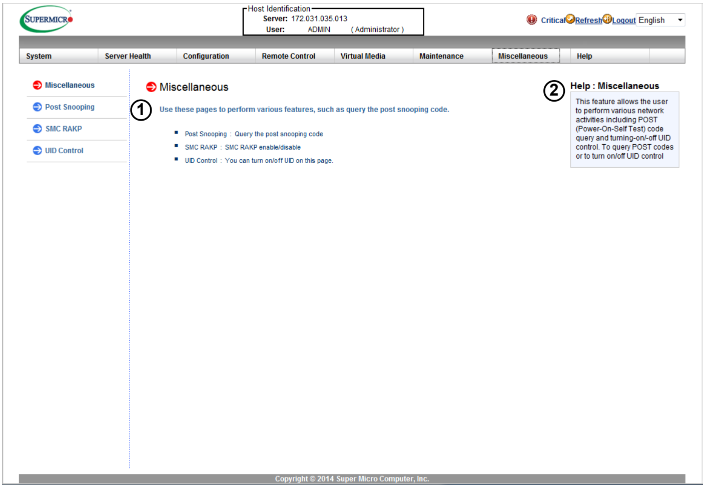
2. Click on <Browse> to select a BIOS image to upload.

3. Click on <Upload BIOS> to upload the BIOS image and proceed with the update.

4. Click on the <Help> tab to display the Help menu. The menu displays information relating to the product key and BIOS license.

2.11 Miscellaneous

This screen displays various features that the user can perform . When you click on *Miscellaneous* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Miscellaneous

Use these pages to perform various features, such as query the post snooping code.

- Post Snooping : Query the post snooping code
- SMC RAKP : SMC RAKP enable/disable
- UID Control : You can turn on/off UID on this page.

Help : Miscellaneous

This feature allows the user to perform various network activities including POST (Power-On-Self Test) code query and turning-on/-off UID control. To query POST codes or to turn on/off UID control

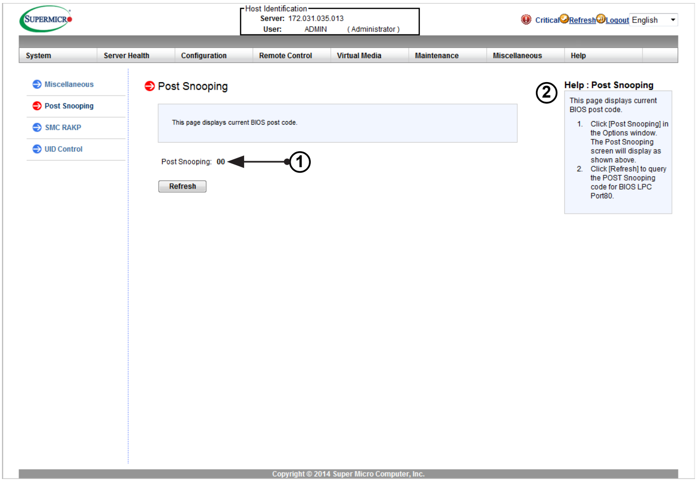
1. This screen displays the following information:

- Post Snooping: Query the post snooping code.
- SMC RAKP: SMC RAKP enable/disable
- UID Controll: Turn on or off the UID on this page.

2. Click on the <Help> tab to display the Help menu for the Miscellaneous page.

2.11.1 Post Snooping

This page displays the current BIOS code. When you click on *Post Snooping* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

Post Snooping

This page displays current BIOS post code.

Post Snooping: 00

Help : Post Snooping

This page displays current BIOS post code.

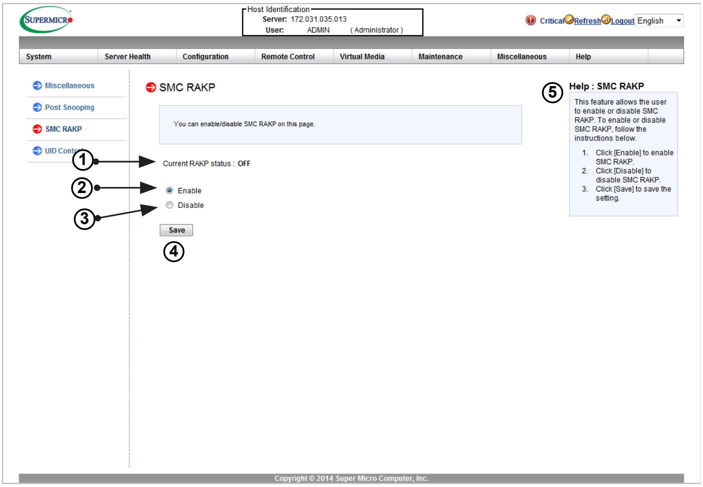
1. Click [Post Snooping] in the Options window. The Post Snooping screen will display as shown above.
2. Click [Refresh] to query the POST Snooping code for BIOS LPC Port80.

1. Displays the current BIOS code.

2. Click on the <Help> tab to display the Help menu for the Post Snooping page.

2.11.2 SMC RAKP

This feature allows the user to enable or disable the SMC RAKP (Remote Authenticated Key-Exchange Protocol). When you click on *SMC RAKP* in the Options window, the following screen will display.



Host Identification
Server: 172.031.035.013
User: ADMIN (Administrator)

SMC RAKP

You can enable/disable SMC RAKP on this page.

Current RAKP status : OFF

● Enable
○ Disable

Help : SMC RAKP

This feature allows the user to enable or disable SMC RAKP. To enable or disable SMC RAKP, follow the instructions below.

1. Click [Enable] to enable SMC RAKP.
2. Click [Disable] to disable SMC RAKP.
3. Click [Save] to save the setting.

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1. Displays the current RAKP status.

2. Click on <Enable> to enable RAKP.

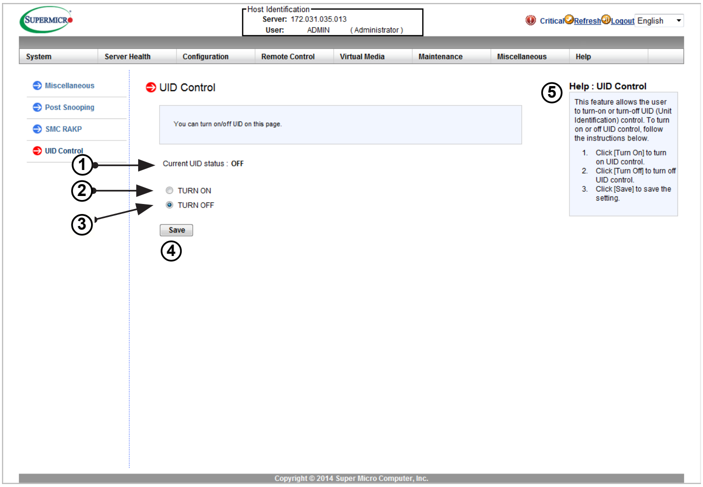
3. Click on <Disable> to disable RAKP.

4. Click on <Save> to save the changes.

5. Click on the <Help> tab to display the Help menu. The menu inlcudes instructions on how to enable or disable SMC RAKP.

2.11.3 UID Control

This feature allows the user to turn on or off the UID (Unit Identification). When you click on *UID Control* in the Options window, the following screen will display.



UID Control

You can turn on/off UID on this page.

Current UID status : OFF

○ TURN ON
● TURN OFF

Help : UID Control

This feature allows the user to turn-on or turn-off UID (Unit Identification) control. To turn on or off UID control, follow the instructions below.

1. Click [Turn On] to turn on UID control.
2. Click [Turn Off] to turn off UID control.
3. Click [Save] to save the setting.

1. Displays the current UID status.

2. Click on <TURN ON> to turn on the Unit identification.

3. Click on <TURN OFF> to turn off the Unit Identification.

4. Click on <Save> to save the settings.

5. Click on the <Help> tab to display the Help menu. The menu inlcudes instructions on how to turn on or off the UID.

Notes

Chapter 3

Frequently Asked Questions

3-1 Frequently Asked Questions

Question: How do I flash the IPMI firmware?

Answer:

Method#1

1. Click the <Maintenance> button. Browse the files available and select the correct file to flash the firmware.

2. Click the <Update Firmware> button to proceed with firmware flashing.

Method#2

- You can flash the IPMI firmware using flash tools located at:

ftp://ftp.supermicro.com/utility/IPMI FW flash tools/.

- For the latest IPMI Firmware, please refer to:

ftp://ftp.supermicro.com/firmware/nuvoton/.

Question: If I am using a firewall for my network connections, which ports should I open so that I can access my IPMI connection?

Answer: In order to access your IPMI connection behind a firewall, please open the following ports:

HTTP: 80 (TCP)

HTTPS: 443 (TCP)

IPMI: 623 (UDP)

Remote console: 5900 (TCP)

Virtual media: 623 (TCP)

SMASH: 22 (TCP)

WS-MAN: 8889 (TCP)

Question: When I update the IPMI firmware through the web, why do I get a file download pop-up even though the firmware was not updated?

Answer: This may be caused by your anti-virus software. Some anti-virus softwares can cause this. Disable your anti-virus software temporarily and update your firmware.

Question: My system seems to function properly. So why does the IPMI event log indicate that my voltage and temperatures are beyond the limits?

Answer: It is not a normal condition. Make sure that there is no other device accessing the I^{2}C bus. If another device accesses the I^{2}C bus frequently, it might cause a collision with the BMC when this device accesses the I^{2}C bus. When you see this error, please uninstall lm_sensors in the Linux.

Appendix A

Flash Tools

A-1 Overview

This chapter provides instructions on how to use ATEN Flash Tools. ATEN Flash Tools Utility supports firmware updates and firmware dumping.

Firmware Updates

The ATEN Flash Tools utility provides a complete solution for firmware updates. The user can flash the firmware using DOS, Windows or Linux. In addition, Windows and Linux allow the user to update the firmware via LAN or KCS.

Firmware Dumping

In addition to firmware updating, ATEN Flash Tools also support firmware dumping from the BMC (Baseboard Management Controller). You can use this feature to back up the firmware by *dumping* the current version of the firmware to an archive folder before updating to a new version. It will also allow you to flash other BMCs in the factory for mass production. Firmware dumping is supported by DOS, Windows and Linux.

A-2 Reference

ATEN Flash Tools Utility was built in reference to the IPMI - Intelligent Platform Management Interface Specification Second Generation v2.0, Document Revision 1.0, February 12, 2004, by Intel, Hewlett-Packard, NEC, and Dell.

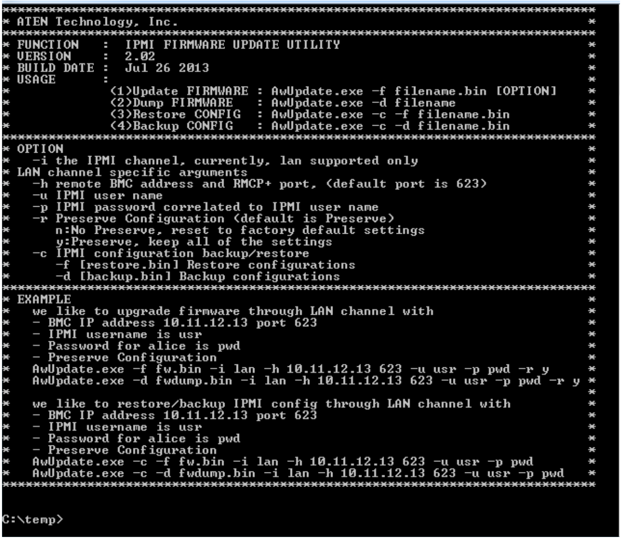
A-3 Using ATEN Flash Tools in the DOS Environment

To use the ATEN Flash Tools in DOS, follow the steps below:

1. At the command line prompt, type “cd /specify location” to change to the directory where the flash tool is located. Example: “cd /temp”

2. At the command line prompt, type "AwUpdate.exe" and press <Enter>.

3. The information about the utility will be displayed. Follow the instructions given on the screen to configure the settings as shown in Figure 1.



```
*****************************************************************************
* ATEN Technology, Inc.                                                     *
*****************************************************************************
* FUNCTION   :  IPMI FIRMWARE UPDATE UTILITY                                *
* VERSION    :  2.02                                                        *
* BUILD DATE :  Jul 26 2013                                                 *
* USAGE      :                                                              *
*             (1)Update FIRMWARE : AwUpdate.exe -f filename.bin [OPTION]    *
*             (2)Dump FIRMWARE   : AwUpdate.exe -d filename                 *
*             (3)Restore CONFIG  : AwUpdate.exe -c -f filename.bin          *
*             (4)Backup CONFIG   : AwUpdate.exe -c -d filename.bin          *
*****************************************************************************
* OPTION                                                                    *
*   -i the IPMI channel, currently, lan supported only                      *
* LAN channel specific arguments                                            *
*   -h remote BMC address and RMCP+ port, (default port is 623)             *
*   -u IPMI user name                                                       *
*   -p IPMI password correlated to IPMI user name                           *
*   -r Preserve Configuration (default is Preserve)                         *
*      n:No Preserve, reset to factory default settings                     *
*      y:Preserve, keep all of the settings                                 *
*   -c IPMI configuration backup/restore                                    *
*      -f [restore.bin] Restore configurations                              *
*      -d [backup.bin] Backup configurations                                *
*****************************************************************************
* EXAMPLE                                                                   *
*   we like to upgrade firmware through LAN channel with                    *
*   - BMC IP address 10.11.12.13 port 623                                   *
*   - IPMI username is usr                                                  *
*   - Password for alice is pwd                                             *
*   - Preserve Configuration                                                *
*   AwUpdate.exe -f fw.bin -i lan -h 10.11.12.13 623 -u usr -p pwd -r y     *
*   AwUpdate.exe -d fwdump.bin -i lan -h 10.11.12.13 623 -u usr -p pwd -r y *
*                                                                           *
*   we like to restore/backup IPMI config through LAN channel with          *
*   - BMC IP address 10.11.12.13 port 623                                   *
*   - IPMI username is usr                                                  *
*   - Password for alice is pwd                                             *
*   - Preserve Configuration                                                *
*   AwUpdate.exe -c -f fw.bin -i lan -h 10.11.12.13 623 -u usr -p pwd       *
*   AwUpdate.exe -c -d fwdump.bin -i lan -h 10.11.12.13 623 -u usr -p pwd   *
*****************************************************************************


C:\temp>
```

Figure 1: IPMI Firmware Updates Utility in DOS - Main Screen

The main screen of the IPMI Update Utility for DOS (above) displays the version and the built date of the utility currently used in the system. The DOS version of Flash Tools Utility allows the user to update or dump the firmware via KCS channels.

Firmware Updating via KCS Channels

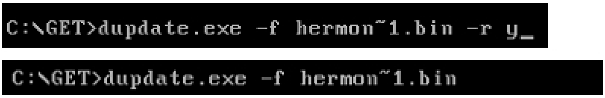
To update your firmware via KCS (Keyboard Controller Style), type <dUpdate.exe –f [filename.bin] *–r y.*> After entering this command, a screen will display as shown in Figure 2.

1. –f: Type <-f> to enter the file name of the firmware that you want to update.

2. –r: Type <-r> to preserve the configuration settings you've chosen. This feature is optional. The default setting is to "preserve" the configuration.

3. y: Type <y> for the BMC to keep all settings after the firmware is updated; otherwise, the BMC will reset all settings to factory default.

After you have entered the commands above, ATEN Flash Tools will start to update the firmware. There are two phases in firmware updating.

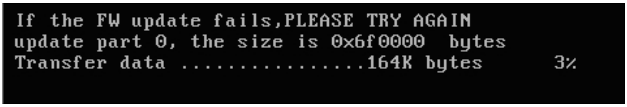


```
C:\GET>dupdate.exe -f hermon~1.bin -r y_
```

```
C:\GET>dupdate.exe -f hermon~1.bin
```

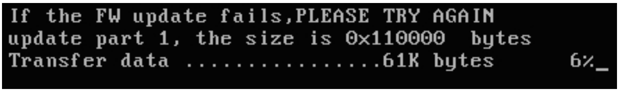
Figure 2: Examples of Firmware Updates with or without the "Preserved" Command

1. Phase 1 is to transfer the FW image file to the BMC. In this phase, Flash Tools will transfer three parts to the BMC as shown in Figure 3, Figure 4 and Figure 5.



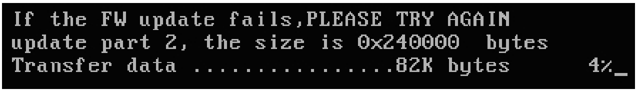
```
If the FW update fails,PLEASE TRY AGAIN
update part 0, the size is 0x6f0000  bytes
Transfer data ................164K bytes      3%
```

Figure 3: Transferring (Part 0)



```
If the FW update fails,PLEASE TRY AGAIN
update part 1, the size is 0x110000  bytes
Transfer data ................61K bytes      6%_
```

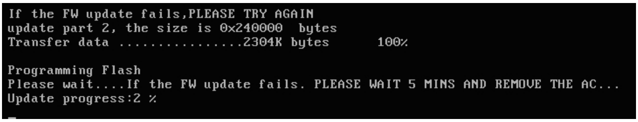
Figure 4: Transferring (Part 1)



```
If the FW update fails,PLEASE TRY AGAIN
update part 2, the size is 0x240000  bytes
Transfer data ................82K bytes      4%_
```

Figure 5: Transferring (Part 2)

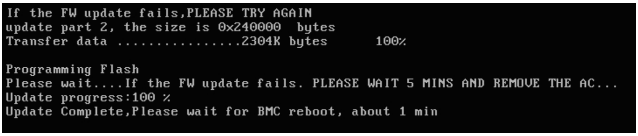
2. Phase 2 is to flash the new firmware. The progress of firmware updating will be displayed as shown in Figure 6. The BMC will reboot after the firmware is completely updated. Please wait for the BMC to complete system reboot (Figure 7).



```
If the FW update fails,PLEASE TRY AGAIN
update part 2, the size is 0x240000  bytes
Transfer data ...............2304K bytes      100%

Programming Flash
Please wait....If the FW update fails. PLEASE WAIT 5 MINS AND REMOVE THE AC...
Update progress:2 %
```

Figure 6: Progress of Firmware Updating



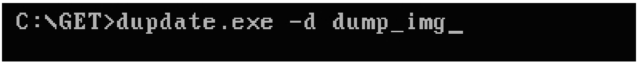
```
If the FW update fails,PLEASE TRY AGAIN
update part 2, the size is 0x240000  bytes
Transfer data ...............2304K bytes      100%

Programming Flash
Please wait....If the FW update fails. PLEASE WAIT 5 MINS AND REMOVE THE AC...
Update progress:100 %
Update Complete,Please wait for BMC reboot, about 1 min
```

Figure 7: Updates Completed

Dumping Firmware from the BMC via KCS channels

The user can dump the firmware by typing <dupdate.exe –d [filename].> Flash Tools will dump the firmware into the file that the user has assigned in the previous command. In the example given in Figure 8, Flash Tools will dump the firmware to dump_img.



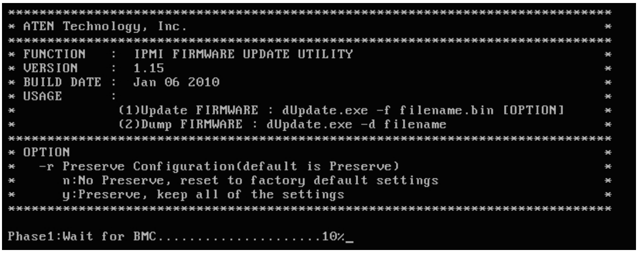
```
C:\GET>dupdate.exe -d dump_img_
```

Figure 8: Example of Firmware Dumping via KCS

There are two phases in firmware dumping.

1. During Phase 1, the Flash Tools Utility is waiting for the BMC to prepare the firmware for dumping. As soon as preparation is complete, the Flash Tools Utility will enter Phase 2.

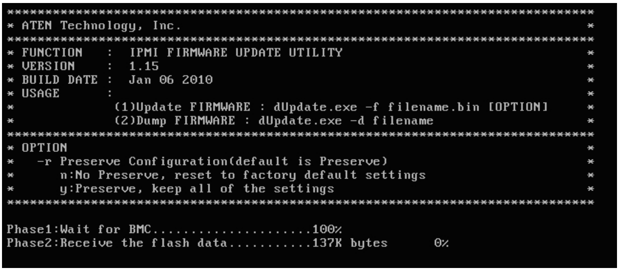
2. In Phase 2, the Flash Tools utility gets the firmware from the BMC. The user can see the progress on the screen as shown in Figure 10.



```
*****************************************************************************
* ATEN Technology, Inc.                                                     *
*****************************************************************************
* FUNCTION    :  IPMI FIRMWARE UPDATE UTILITY                               *
* VERSION     :  1.15                                                       *
* BUILD DATE  :  Jan 06 2010                                                *
* USAGE       :                                                             *
*               (1)Update FIRMWARE : dUpdate.exe -f filename.bin [OPTION]   *
*               (2)Dump FIRMWARE : dUpdate.exe -d filename                  *
*****************************************************************************
* OPTION                                                                    *
*   -r Preserve Configuration(default is Preserve)                         *
*      n:No Preserve, reset to factory default settings                     *
*      y:Preserve, keep all of the settings                                 *
*****************************************************************************

Phase1:Wait for BMC....................10%_
```

Figure 9: Phase 1- Flash Tools Waiting for the BMC to Prepare Data



```
*****************************************************************************
* ATEN Technology, Inc.                                                     *
*****************************************************************************
* FUNCTION   :  IPMI FIRMWARE UPDATE UTILITY                                *
* VERSION    :  1.15                                                        *
* BUILD DATE :  Jan 06 2010                                                 *
* USAGE      :                                                              *
*             (1)Update FIRMWARE : dUpdate.exe -f filename.bin [OPTION]     *
*             (2)Dump FIRMWARE : dUpdate.exe -d filename                    *
*****************************************************************************
* OPTION                                                                    *
*   -r Preserve Configuration(default is Preserve)                          *
*      n:No Preserve, reset to factory default settings                     *
*      y:Preserve, keep all of the settings                                 *
*****************************************************************************

Phase1:Wait for BMC.....................100%
Phase2:Receive the flash data...........137K bytes      0%
```

Figure 10: Flash Tools Dumping the Firmware

A-4 Using ATEN Flash Tools in Windows/Linux

In addition to DOS, ATEN's Flash Tools Utility supports Windows and Linux platforms.

The Windows/Linux version of Flash Tools Utility provides the same features supported by the DOS version. In addition, it also allows the user to update the firmware via LAN connections.

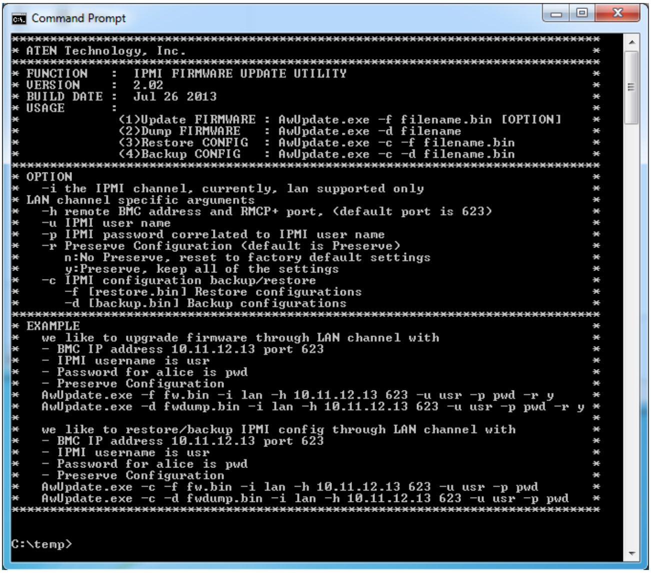
To use the ATEN Flash Tools in Windows/Linux, follow the steps below:

1. For Windows, start the Command Prompt. For Linux, start the Terminal.

2. At the command line prompt, type “cd /specify location” to change to the directory where the flash tool is located. Example: “cd /temp”

3. At the command line prompt, type "AwUpdate.exe" and press <Enter>.

4. The information about the utility will display. Follow the instructions given on the screen to configure the settings as shown in Figure 11.



```
*****************************************************************************
* ATEN Technology, Inc.                                                     *
*****************************************************************************
* FUNCTION   :  IPMI FIRMWARE UPDATE UTILITY                                *
* VERSION    :  2.02                                                        *
* BUILD DATE :  Jul 26 2013                                                 *
* USAGE      :                                                              *
*             (1)Update FIRMWARE : AwUpdate.exe -f filename.bin [OPTION]    *
*             (2)Dump FIRMWARE   : AwUpdate.exe -d filename                 *
*             (3)Restore CONFIG  : AwUpdate.exe -c -f filename.bin          *
*             (4)Backup CONFIG   : AwUpdate.exe -c -d filename.bin          *
*****************************************************************************
* OPTION                                                                    *
*   -i the IPMI channel, currently, lan supported only                      *
* LAN channel specific arguments                                            *
*   -h remote BMC address and RMCP+ port, (default port is 623)             *
*   -u IPMI user name                                                       *
*   -p IPMI password correlated to IPMI user name                           *
*   -r Preserve Configuration (default is Preserve)                         *
*      n:No Preserve, reset to factory default settings                     *
*      y:Preserve, keep all of the settings                                 *
*   -c IPMI configuration backup/restore                                    *
*      -f [restore.bin] Restore configurations                              *
*      -d [backup.bin] Backup configurations                                *
*****************************************************************************
* EXAMPLE                                                                   *
*   we like to upgrade firmware through LAN channel with                    *
*   - BMC IP address 10.11.12.13 port 623                                   *
*   - IPMI username is usr                                                  *
*   - Password for alice is pwd                                             *
*   - Preserve Configuration                                                *
*   AwUpdate.exe -f fw.bin -i lan -h 10.11.12.13 623 -u usr -p pwd -r y     *
*   AwUpdate.exe -d fwdump.bin -i lan -h 10.11.12.13 623 -u usr -p pwd -r y *
*                                                                           *
*   we like to restore/backup IPMI config through LAN channel with          *
*   - BMC IP address 10.11.12.13 port 623                                   *
*   - IPMI username is usr                                                  *
*   - Password for alice is pwd                                             *
*   - Preserve Configuration                                                *
*   AwUpdate.exe -c -f fw.bin -i lan -h 10.11.12.13 623 -u usr -p pwd       *
*   AwUpdate.exe -c -d fwdump.bin -i lan -h 10.11.12.13 623 -u usr -p pwd   *
*****************************************************************************


C:\temp>
```

Figure 11 Main Screen of Flash Tools (Windows Version)

In the Windows/Linux version of the Flash Tools Utility, there are six parameters:

1. –f: Type <-f> to enter the filename of the firmware that you want to update

2. –i: -i indicates the IPMI channel. Currently, KCS and LAN connections are supported. If a LAN connection is used, the user needs to enter the following parameters:

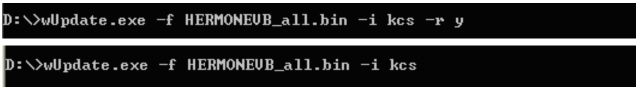
3. –h: Type <-h> to enter the addresses of the remote BMC and the RMCP+ port (default port is 623).

4. –u: Type <-u> to enter the IPMI username.

5. –p: Type <-p> to enter the password for the IPMI user.

6. –r: Type <-r> to preserve (to save) the configuration settings you've entered. (This feature is optional.) (Default: preserve configuration.)

7. -y: Type <-y> for the BMC to keep all settings after updating the firmware; otherwise, the BMC will reset the settings to factory default.

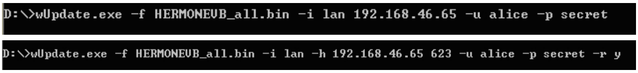


```
D:\>wUpdate.exe -f HERMONEVB_all.bin -i kcs -r y
```

```
D:\>wUpdate.exe -f HERMONEVB_all.bin -i kcs
```

Figure 12: Example of KCS FW Updates with/without Preserving Configuration

To connect IPMI via KCS, type <wUpdate.exe/lUpdate –f [filename.bin] –I kcs –r y> as shown in Figure 12.



```
D:\>wUpdate.exe -f HERMONEVB_all.bin -i lan 192.168.46.65 -u alice -p secret
```

```
D:\>wUpdate.exe -f HERMONEVB_all.bin -i lan -h 192.168.46.65 623 -u alice -p secret -r y
```

Figure 13: Example of LAN_FW_Updates with/without Preserving Configuration and RMCP+ Port

To connect IPMI via LAN, type <wUpdate.exe/lUpdatewUpdate.exe -f [filename.bin] -i lan -h 192.168.46.65 623 -u alice -p secret -r y> as shown in Figure 13.

For other settings, please refer to their counterparts in the DOS version for configuration instructions.

Notes

Appendix B

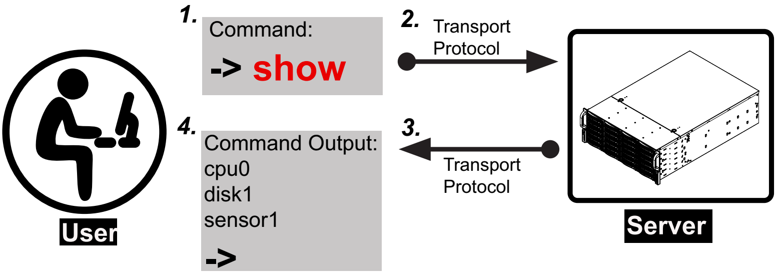
Introduction to SMASH

B-1 Overview

The SMASH (System Management Architecture for Server Hardware) platform, developed by Distributed Management Task Force, Inc. (DMTF), delivers a host of architecture-based, industry-standard protocols that will allow IT professionals to simplify the task of managing multiple network systems in a data center. SMASH offers a simple, intuitive solution to manage heterogeneous servers in a web environment regardless of their differences in hardware, software, OS, or network configuration. SMASH provides the end-user and the ISV community with interoperable management technology for multi-vendor server platforms.

How SMASH works

SMASH simplifies typical SMASH scripts by reducing commands to simple verbs. Although designed to manage multi-servers as a whole, SMASH can address individual components in a specific machine by using the SSH command-line protocol. Even when multiple processors, add-on cards, logical devices, and cooling systems are installed in a server, SMASH can be directed at a particular component in the server. A manager can use a text console to access, monitor, and manage all servers that are connected to the same SSL connection. SMASH can be programmed to periodically check all sensors in all machines or monitor a particular component in a specific server at any time. By adjusting the scope of tasks and the schedules of monitoring, SMASH allows the IT professionals to effectively manage multi-system clusters, minimize power consumption, and achieve system management efficiency.



```
Command:
-> show
```

```
Command Output:
cpu0
disk1
sensor1
->
```

Figure 1 SMASH-CLP User Interface

SMASH Compliance Information

SMASH documented in this user's guide is developed in reference to and in compliance with the SMASH Initiative Standards based on the following DMTF documents.

- System Management Architecture for Server Hardware (SMASH) Command Line Protocol (CLP) Architecture White Paper (DSP 2001)
- SM CLP Specification (DSP 0214)
- SM ME Addressing Specifications (DSP 0215)
- SM SLP to CIM Common Mapping Specification (DSP 0216)
- Common Information Model (CIM) Infrastructure Specification (DSP0004)
- The Secure Shell (SSH) Protocol Architecture (RFC4251)
- The Secure Shell (SSH) Connection Protocol (RFC4254)

B-2 An Important Note to the User

The information included in this user's guide provides a general guideline on how to use the SMASH protocol for your system management. Instructions given in this document may or may not be applicable to your system; it depends on the configuration of the system or the environment it operates in.

B-3 Using SMASH

This section provides a general guideline on how to use SMASH for your system management in a web-based environment. Refer to the SMASH script provided below to curtail a server management protocol for your systems.

Note: The instructions listed below are applicable to both Windows and Linux systems. We use the Windows platform as our default setting.

B-4 Initiating the SMASH Protocol

There are two ways of initiating the SMASH protocol.

To Initiate SMASH Automatically

You can initiate SMASH automatically by connecting the BMC (Baseboard Management Controller) via the Secure Shell protocol (SSH) from a client machine.

To connect from a Linux machine

1. Use 'ssh<BMC ip address>'.

2. Enter the password.

To connect from other machines

1. Use a terminal emulator application such as *Putty*.

2. Enter the *BMC ip* address in the terminal emulator application.

3. Choose *ssh* as the connection type

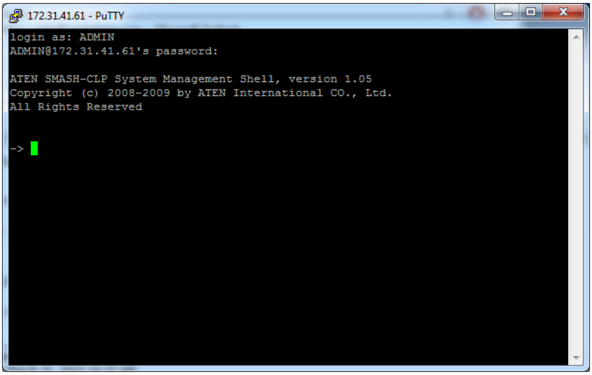
4. Enter the password at the prompt.

5. At the prompt '#", enter "SMASH" to invoke the SMASH prompt ' —>'.

6. If you have successfully logged in, the SMASH prompt will display.

B-5 SMASH-CLP Main Screen

After you've successfully logged in the SSL network, the SMASH Command Line Protocol Main screen will display as shown below.



```
login as: ADMIN
ADMIN@172.31.41.61's password:

ATEN SMASH-CLP System Management Shell, version 1.05
Copyright (c) 2008-2009 by ATEN International CO., Ltd.
All Rights Reserved

->
```

Figure 2 SMASH-CLP Main Screen

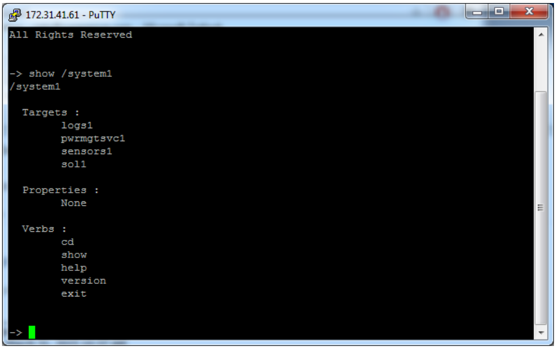
B-6 Using SMASH for System Management

After you've familiarized yourself with SMASH commands, you are able to use these commands to manage your system. To properly manage your network system, be sure to follow the instructions below.

Note:

Make sure that the format of all your commands are compliant with the DMTF specification, which is "<Verb> [<option>] [<target>] [<properties>]", where:

- A ***Verb*** means a *command*.
- An ***Option*** works according to the definition of a command given in Section B-7: Definitions of Command Verbs.
- A ***Target*** is a managed device.
- ***Properties*** are the specific attributes that you want to assign to a target machine or to get from a target machine.



```
All Rights Reserved


-> show /system1
/system1

  Targets :
        logs1
        pwrmgtsvc1
        sensors1
        sol1

  Properties :
        None

  Verbs :
        cd
        show
        help
        version
        exit


->
```

Figure 3 Using SMASH for System Management

B-7 Definitions of Command Verbs

Based on the DSP Specification, each target supports its own set of verbs. These verbs allow the user to issue commands to a target system to perform certain tasks. For example, the verbs supported by the *admin* target group include: cd, help, load, dump, create, delete, exit, version and show etc.

- ***cd***

The command verb *cd* is used to navigate to a specific target address using the SSL protocol. For example, issuing the command *cd/admin1* will direct you to the target *admin* (AdminDomain).

- ***show***

The command verb *show* is used to display the properties and the contents of a target, a group of targets, a sub-groups of the target(s). Properties, contents, supported operations related to the target, the group of targets or their sub-targets will be displayed.

- ***exit***

The command verb *exit* is used when you want to exit from a SMASH session or close a session.

- ***help***

The command verb *help* is used when you want to get helpful hints or information on a context-specific item. This command has the same function as the *help option* listed for the target group.

- ***Version***

Use the command verb *version* to display the CLP version used in a specific machine.

- ***set***

Use the command verb *set* to assign a set of values to the properties of a target machine.

- ***start***

The command verb *start* is used to turn on the power control, to start a process, or to change an operation state from a lower level to a higher level in a system.

- ***stop***

The command verb *stop* is used to turn off the power, to stop a process, or to change an operation state from a higher level to a lower level.

- ***reset***

The command verb *reset* is used to enable or to disable the power control of or the processes of the machine.

- ***delete***

The command verb *delete* is used to delete or to destroy an entry or a value previously entered. It can only be used in a specific target as defined according to the SAMSHCLP Standards.

- ***load***

The command verb *load* is used to move a binary image file from a URI source to the MAP. This command will achieve different results depending on the setting of a target system, and how the verb *load* is defined in the DSP specification used in the system.

- ***dump***

The command verb *dump* is used to move a binary image file from the MAP to a URI source. This command will achieve different results depending on the setting of a target system, and how the verb *dump* is defined in the DSP specification implemented in the system.

- ***create***

The command verb *create* is used to create a new address entry or a new item in the MAP. It can only be used in a specific target as defined in the SMASH profile or in MAP specifications.

B-8 SMASH Commands

The following table provides the definitions and the descriptions of SMASH commands. The most useful commands are *show* and *help*, which will provide the user with useful information on how to navigate through the SSL network connection.

Option Name	Short Form	Definition	Notes
-all	-a	Instructs a command verb to perform all tasks possible	None
-destination <*URI*>	None	Indicates the final location of an image or selected data	URI or SM instance address
-display	-d	Selects data that the user wishes to display	This can generate multiple query results
-examine	-x	Instructs the Command Processor to examine a command for syntax or semantic errors without executing it	None
-force	-f	Instructs the verb to ignore any warnings triggered by default but go ahead executing the command instead	None
-help	-h	Displays all information and documentation regarding the command verb	None
-keep <m[.s]	-k	Sets a time period to hold and keep the Job ID and the status of a command	The amount of time set to hold a command Job ID or its status can differ.
-level <n>	-l	Instructs the Command Processor to execute the command for the current target and for all target machines within the level specified by the user	Levels should be expressed in a nature number or "all".
-Output <args>	-o	Controls the format and the content of a command output. This only supports "format=clpxml" and "format=keyword"	Many variables or factors can affect the outcome of format, language, level of details of the output.
-Source <URI>	None	Indicates the location of a source image or a target	URI or SM Instance Address
-Version	-v	Displays the version of the command verb	None
-Wait	-w	Instructs the Command Processor to hold the command response or query result until all spawned jobs are completed.	None

Table 1 SMASH Commands

B-9 Standard Command Options

The following table lists the standard command options.

CLP Option	CLP Verbs												
	CD	Create	delete	dump	exit	help	load	reset	set	show	start	Stop	version
all										x			
destination				x									
display										x			
examine	x	x	x	x	x	x	x	x	x	x	x	x	x
force			x	x			x	x	x	x	x	x	
help	x	x	x	x	x	x	x	x	x	x	x	x	x
keep													
level										x			
Output	x	x	x	x	x	x	x	x	x	x	x	x	x
Source							x						
Version	x	x	x	x	x	x	x	x	x	x	x	x	x
Wait													

Table 2 Standard Command Options

B-10 Target Addressing

To simplified the process of SMASH command execution, a file system called Target Addressing was created as shown in the diagram below.

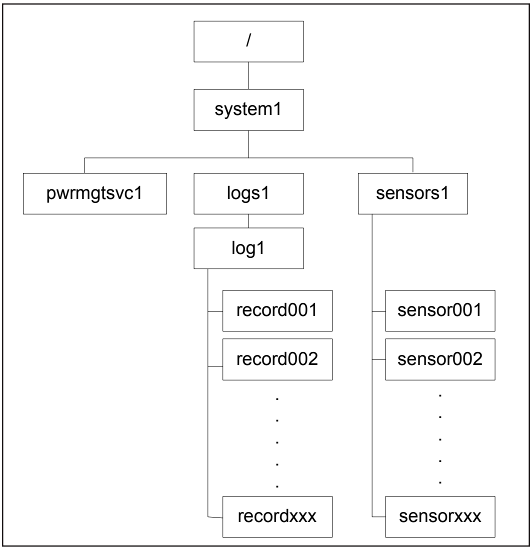


Figure 4 Target Addressing Diagram

Terms Used in the Target Addressing Diagram

This section provides the descriptions of the terms used in the Target Addressing Diagram above.

- ***"/"*** indicates *the root* of the system.
- ***"/system1"*** includes all major *Targets*.
- ***"/system1/logs1/log1"*** includes all senor event logs.
- ***"/system1/sensors1"*** contains the readings and information of all sensors.
- ***"/system1/pwrmgtsvc1"*** is used for chassis control.
- ***"show../logs1"*** allows you to issue SMASH commands for the system to perform the tasks of your choice. For example:
  - Issuing the command ***"show/system1/logs1"*** *while you are in* ***"show../logs1"*** will allow you to set the *Absolute* or the *Relative* target path.

Notes

Appendix C

RADIUS Configuration

C-1 Overview

This chapter provides instructions on how to configure RADIUS on Ubuntu and the Windows operating systems.

RADIUS (Remote Authentication Dial In User Service) is a network protocol that allows you to manage remote user authentication and accounting. It authenticates users trying to establish a network connection, authorizes users to access the network, and accounts for users accessing the network. Before you run RADIUS, you need to cofigure the user account and client information.

C-2 Configuring a User Account in Ubuntu

Follow the instructions below to configure a user account.

1. To add a local user and password, type the following command at the prompt and press <Enter>:

```
# vi /etc/freeradius/users
```

2. Then you will be able to grant privileges to a user account. There are four types of user accounts. The list below displays the four types of accounts and the vendor-specific attributes.

- radius_admin: Password: "123456"
  Vendor-Specific Attributes: "H=4, I=4"

- radius_operator: Password: "654321"
  Vendor-Specific Attributes: "H=3, I=3"

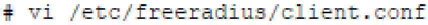
- radius_user: Password: "654321"
  Vendor-Specific Attributes: "H=2, I=2"

- radius_callback: Password: "654321"
  Vendor-Specific Attributes: "H=1, I=1"A-2

C-3 Configuring Client Information in Ubuntu

Follow the instructions below to configure the client information.

1. To add the client IP, secret and short name, type the following command at the prompt and press <Enter>:



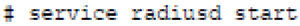
```
# vi /etc/freeradius/client.conf
```

Example:

```
client 192.123.4.5 {
secret          = super
shortname       = superbmc
}
```

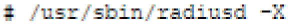
C-4 Starting the RADIUS Server in Ubuntu

1. To start the server, type the following command:



```
# service radiusd start
```

2. To start the server in debugging mode, type the following command:



```
# /usr/sbin/radiusd -X
```

C-5 Adding Roles in Windows

Follow the instructions below to add a role in Windows Server.

1. Click on the <Start> button, then *Adminstrative Tools* and then *Server Manager*.

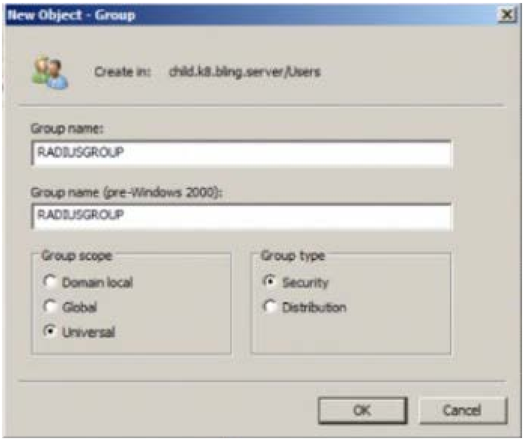
2. Under *Server Manager*, select *Add Roles.*

3. Select *Server Roles* and click on <Next>.

4. Select *Network Policy and Access Services* and click on <OK>.

Adding a New Object - Group

1. To add a new object group, enter in the group name and select the group scope and type. Click on <OK> to complete to this step.



Create in: child.k8.bling.server/Users

Group name: RADIUSGROUP

Group name (pre-Windows 2000): RADIUSGROUP

Group scope
○ Domain local
○ Global
● Universal

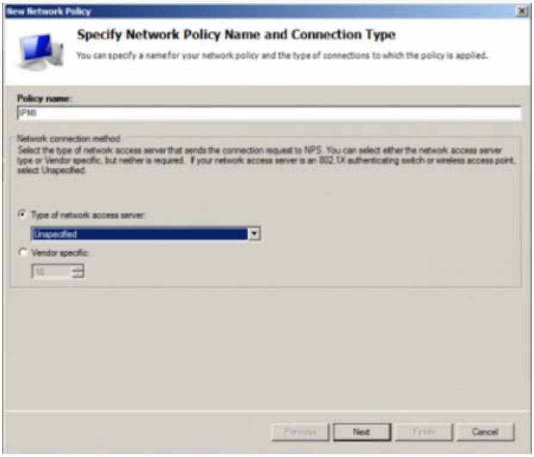
Group type
● Security
○ Distribution

Add a New Object - User

1. To add a new object user, enter in the user's name and login name. Click on <Next>.

Adding a New Network Policy

1. To add a new network policy, click on *Network Policies*. Type in the policy name and select the type of network access server.



New Network Policy

Specify Network Policy Name and Connection Type

You can specify a name for your network policy and the type of connections to which the policy is applied.

Policy name: IPMI

Network connection method

Select the type of network access server that sends the connection request to NPS. You can select either the network access server type or Vendor specific, but neither is required. If your network access server is an 802.1X authenticating switch or wireless access point, select Unspecified.

● Type of network access server: Unspecified

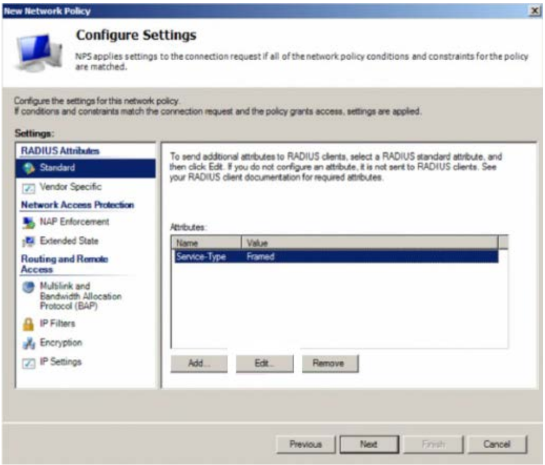
○ Vendor specific: 10

2. Click on <Next> to choose a permission.

3. Then configure Contraints and remove *Framed* protocol.

4. Edit Service-Type for login.

5. Check the *Others* option and select *Login.* Click on <OK> to complete the configuration.



New Network Policy

Configure Settings

NPS applies settings to the connection request if all of the network policy conditions and constraints for the policy are matched.

Configure the settings for this network policy.
If conditions and constraints match the connection request and the policy grants access, settings are applied.

Settings:

To send additional attributes to RADIUS clients, select a RADIUS standard attribute, and then click Edit. If you do not configure an attribute, it is not sent to RADIUS clients. See your RADIUS client documentation for required attributes.

Attributes:

Name	Value
Service-Type	Framed

Adding a Vendor Specific

1. In the *New Network Policy* screen, select *Vendor Specific* and click on <Add>.

2. Select a vendor specific attribute and click on <Add>.

3. Click on <Add> and configure the attrbiute.

4. Specify the vendor specific account and click on the <Configure Attribute> button to configure the attribute. Click on <OK> to complete the configuration.

Configuring a New RADIUS Client

1. In the *New RADIUS Client* screen, select the *Settings* tab and enter information in the following fields:

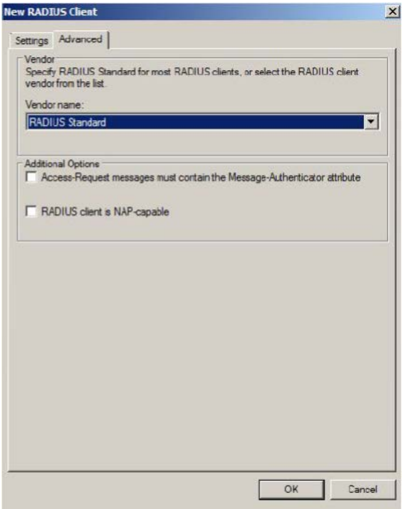
   - Friendly name:

   - Address (IP or DNS):

   - Shared secret:

   - Confirm shared secret:

2. In the *Advanced* tab, select a vendor name from the drop-down menu. Select RADIUS Standard for most RADIUS clients.



Vendor

Specify RADIUS Standard for most RADIUS clients, or select the RADIUS client vendor from the list.

Vendor name: RADIUS Standard

Additional Options

□ Access-Request messages must contain the Message-Authenticator attribute

□ RADIUS client is NAP-capable

Notes

(Disclaimer Continued)

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